



ST. LOUIS DISTRICT MOBILITY

QUARTERLY REGIONAL MOBILITY REPORT ■ JUNE / JULY / AUGUST 2018 | EDITION NO. 04

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Provide Outstanding Customer Service & Deliver Transportation Services of Great Value

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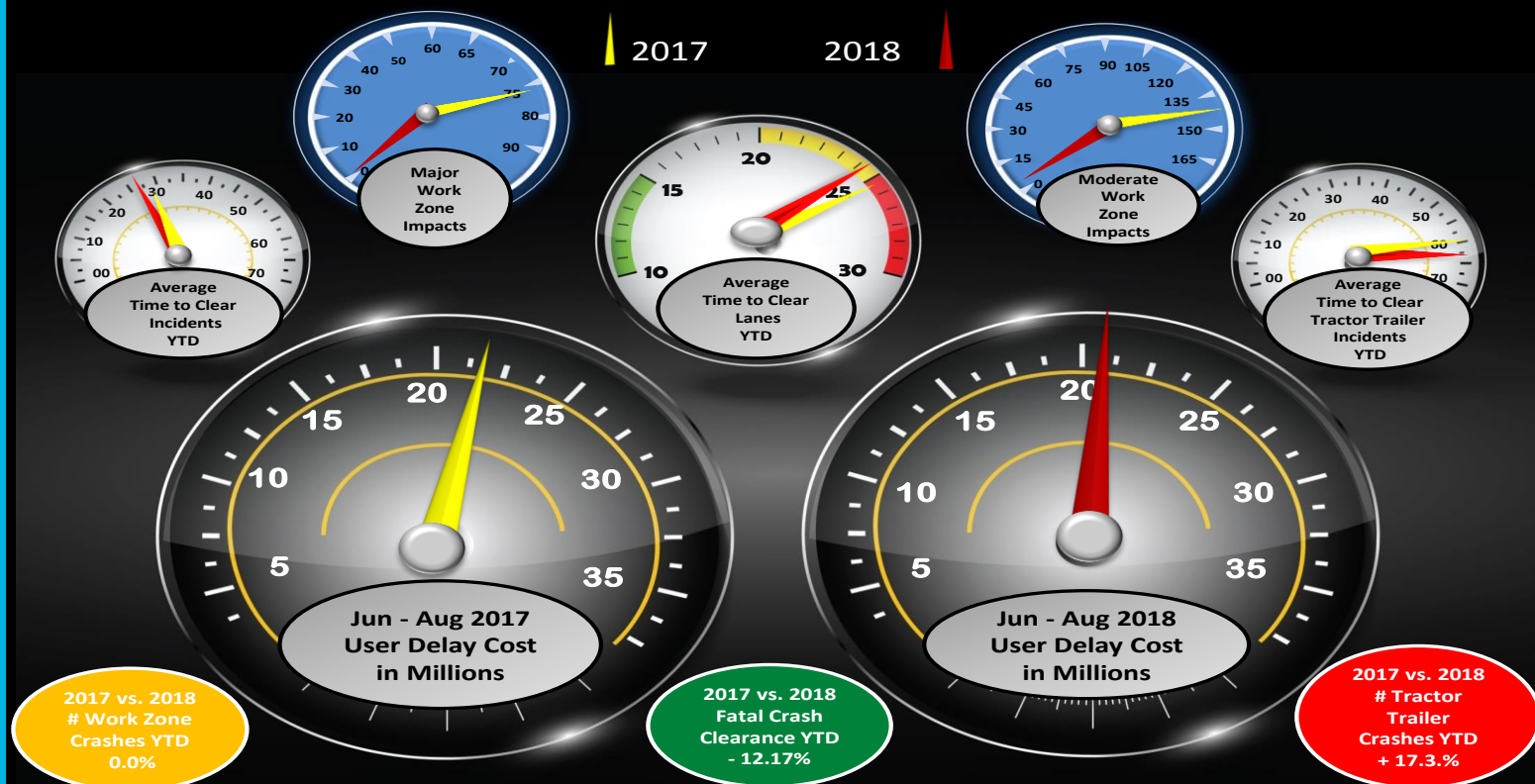
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Keep Customers and Ourselves Safe



User Delay Cost: Passenger Vehicle \$17.67 Commercial Vehicle \$68.09
Sources Texas Transportation Institute & American Transportation Research Institute

July thru August 2017 Grand Total and Average

Delay cost:	Vehicle Miles traveled (VMT)
Total \$21,074,678	Total: 2,158,723,580 miles
Hours of delay	Passenger: 1,942,851,222 miles
Person-hours: 967,353h 14m	Commercial: 215,872,358 miles
Vehicle hours: 789,676h 6m	Delay per VMT: 0.0219 mins/mile

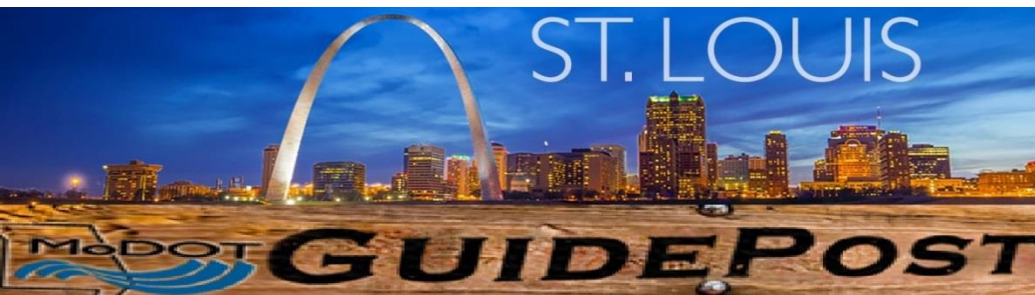
July thru August 2018 Grand Total and Average

Delay cost:	Vehicle Miles traveled (VMT)
Total \$20,812,971	Total: 2,193,742,842 miles
Hours of delay	Passenger: 1,974,368,558 miles
Person-hours: 955,340h 32m	Commercial: 219,374,284 miles
Vehicle hours: 779,869h 49m	Delay per VMT: 0.0213 mins/mile



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Average time to clear lanes improved by nearly 4 minutes.

Work zone crashes were the exact same for the two periods.

Major and moderate work zone impacts dropped considerably from 2017 to 2018.

Overall regional mobility decreased for the AM peak period. Increased for the PM peak.

Westbound US 40 @ I-70 (Wentzville) moved up to #1 on the Top Congestion Locations. Eastbound I-64 @ I-44/I-55/US 40 dropped out of the top 5 congestion spots for June / July / August 2018

ZONING IN

TMS Work Zones:

Jun	2018:	400
Jul	2018:	398
Aug	2018:	379

Work Zone Impact Breakdown:

■	Major:	2 – 0.31%
■	Moderate:	4 – 0.62%
■	Minor:	637 – 99.07%

WORK ZONE CRASHES: 29

Most Significant Impact Events

Planned Event

Date: 7-9

Location: Southbound I-270 at Dorsett

Event Detail: Stage 3 with all traffic moved to the SB lanes. Additional travel times up to 15 minutes during non-peak hours

Unplanned Event

Date: 7-13

Location: Westbound I-70 at I-64

Event Detail: Tractor trailer load of batteries shifted and spilled battery acid



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Top 5 Congestion Locations / June – August 2017 vs. 2018

*Locations ranked on Base Impact (The aggregation of Queue Length over time for congestion originating at each location in mile minutes)

	Congestion Locations 2017	*Base Impact	Average Queue Length Miles	Average Daily Duration	Total Duration
1	EB I-64 @ I-44/I-55/US40	55,372.73	1.32	6h 49 m	26d 3h 23m
2	SB I-270 @ MO100 Manchester Road	29,653.49	1.39	3h 41m	14d 02h 54m
3	WB I-64 @ Clayton Ave / Oakland Ave	24,370.33	2.28	1h 59m	7d 15h 55m
4	EB I-64 @ Big Bend Boulevard	23,539.35	3.05	1h 18m	4d 23h 52m
5	WB US 40 @ I-70 (Wentzville)	20,742.96	2.66	1h 25m	5d 11h 0m

	Congestion Locations 2018	*Base Impact	Average Queue Length Miles	Average Daily Duration	Total Duration
1	WB US 40 @ I-70 (Wentzville)	35,838.63	2.72	2h 20m	8d 23h 52m
2	WB I-64 @ Clayton Ave / Oakland Ave	26,164.83	2.32	1h 59m	7d 15h 38m
3	SB I-270 @ Dorsett Road	25,412.28	1.31	3h 30m	13d 10h 3m
4	WB I-44 @ US 50 Exit 247	22,840.92	3.17	1h 16m	4d 21h 26m
5	EB I-64 @ Big Bend Boulevard	21,331.30	3.05	1h 15m	4d 19h 58m

Average Incident Duration Comparison / 2017 vs. 2018

Month	Average Incident Duration (Minutes : Seconds)	2017	2018
June	Lane Clearance	22:18	24:55
July	Lane Clearance	24:43	21:37
August	Lane Clearance	29:30	26:01
June	Incident Clearance	26:41	27:14
July	Incident Clearance	28:35	25:35
August	Incident Clearance	34:24	30:34

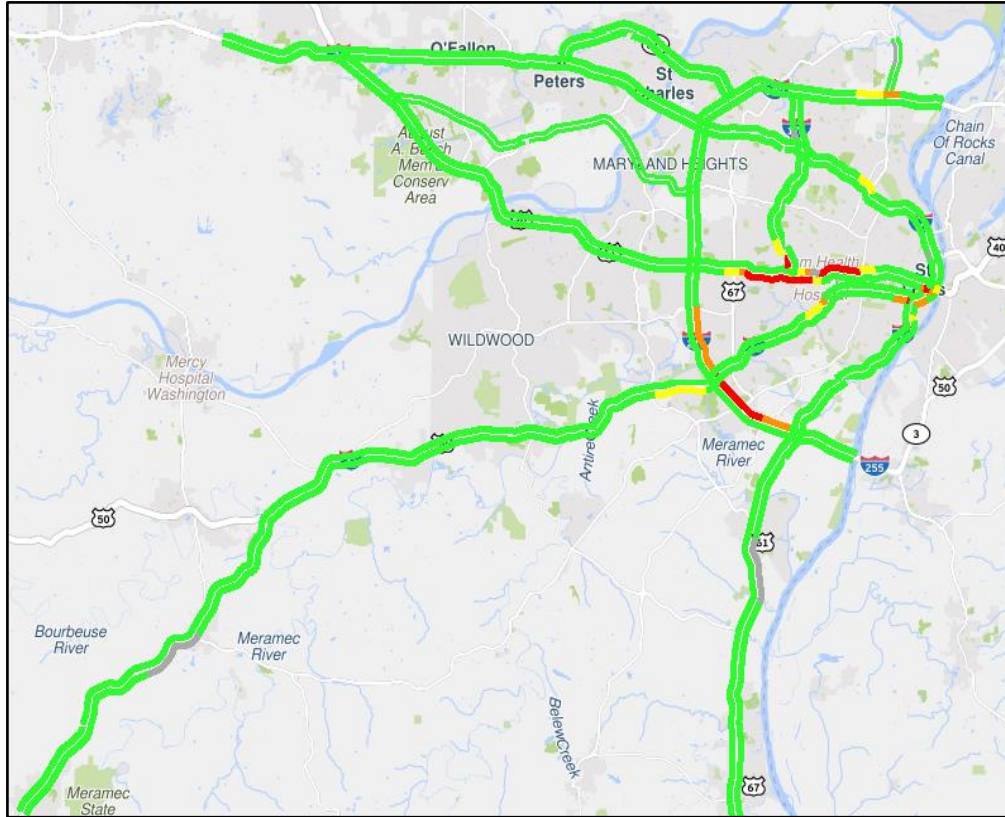


FREEWAY MANAGEMENT

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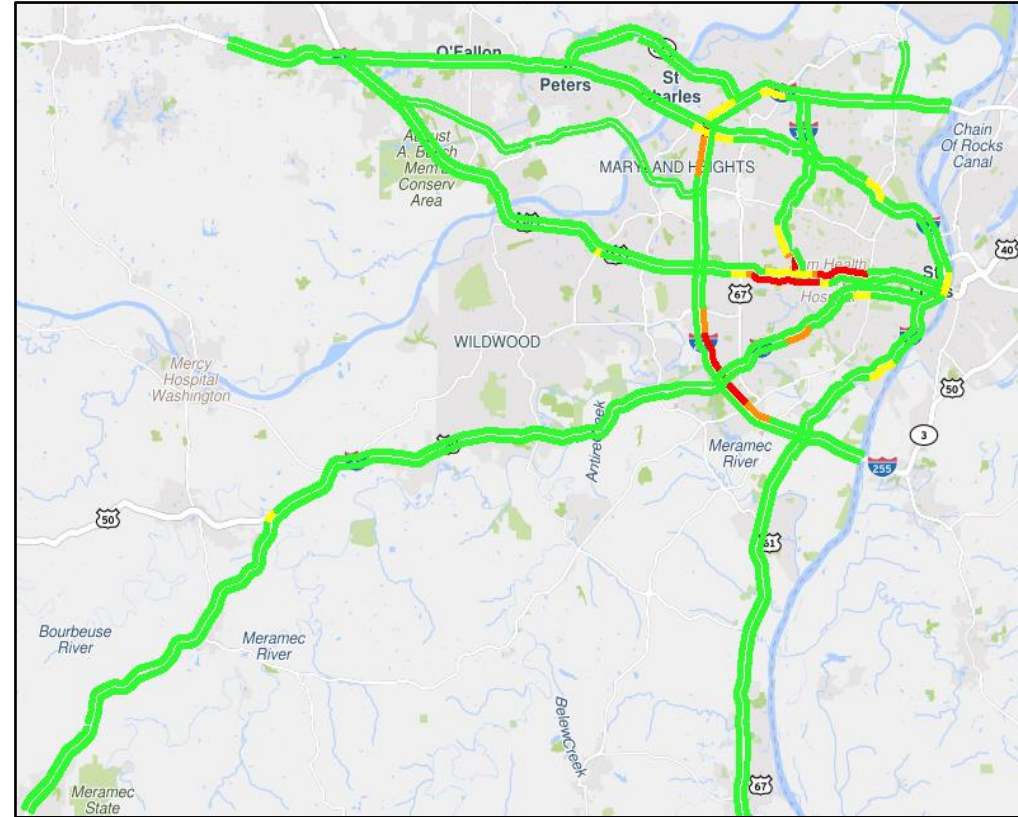
DECREASE in Overall AM Mobility

AM Peak Mobility June/July/August 2017 vs 2018 *



2017

- > 80% of free-flow speed
- 70-80% of free-flow speed
- 60-70% of free-flow speed
- < 60% of free-flow speed



2018

Regional % of free-flow speed hourly breakdown**:

	2017	2018
6 AM	100%	100%
7 AM	97.7%	95.9%
8 AM	96.5%	95.7%
9 AM	100%	99.9%

* 8am hour shown

**Regional % of free-flow speed is the averaged % of free-flow speeds for all directions of all freeways within the St. Louis District. This provides a high-level measurement of overall regional mobility for each peak hour.

Highlighted Corridor AM Summary

I-270

I-255/I-55 to Riverview

Comparing AM June/July/August 2017 vs 2018

AM NB/EB I-270 Overall Mobility DECREASED 2017 → 2018

AM WB/SB I-270 Overall Mobility DECREASED 2017 → 2018

Active Work Zones During Report Period

- SB I-270 between I-70 and Dorsett, 3 lanes (Bridge Rehabilitation at Fee Fee Creek)
- NB I-270 between I-70 and Dorsett, 3 lanes (Bridge Rehabilitation at Fee Fee Creek)
- NB I-270 at McKelvey, 1 lane (McKelvey Bridge Painting)



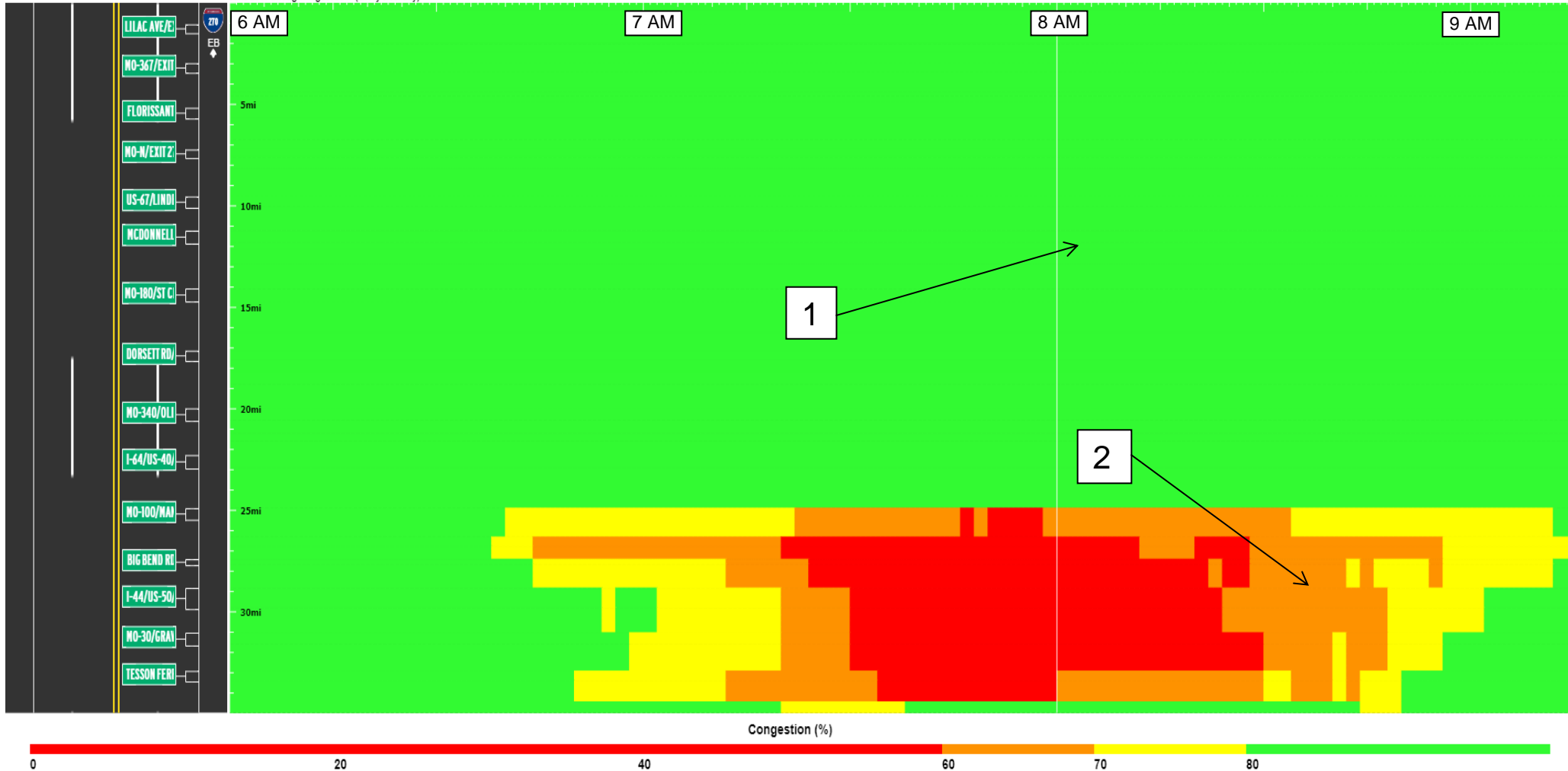
FREEWAY MANAGEMENT

AM 2017 NB/EB I-270

NB/EB I-270 between I-55/I-255 and Riverview Dr.

Averaged by 2 minutes for June 2017 through August 2017 (Every weekday)

June 2017 through August 2017 (Every weekday)





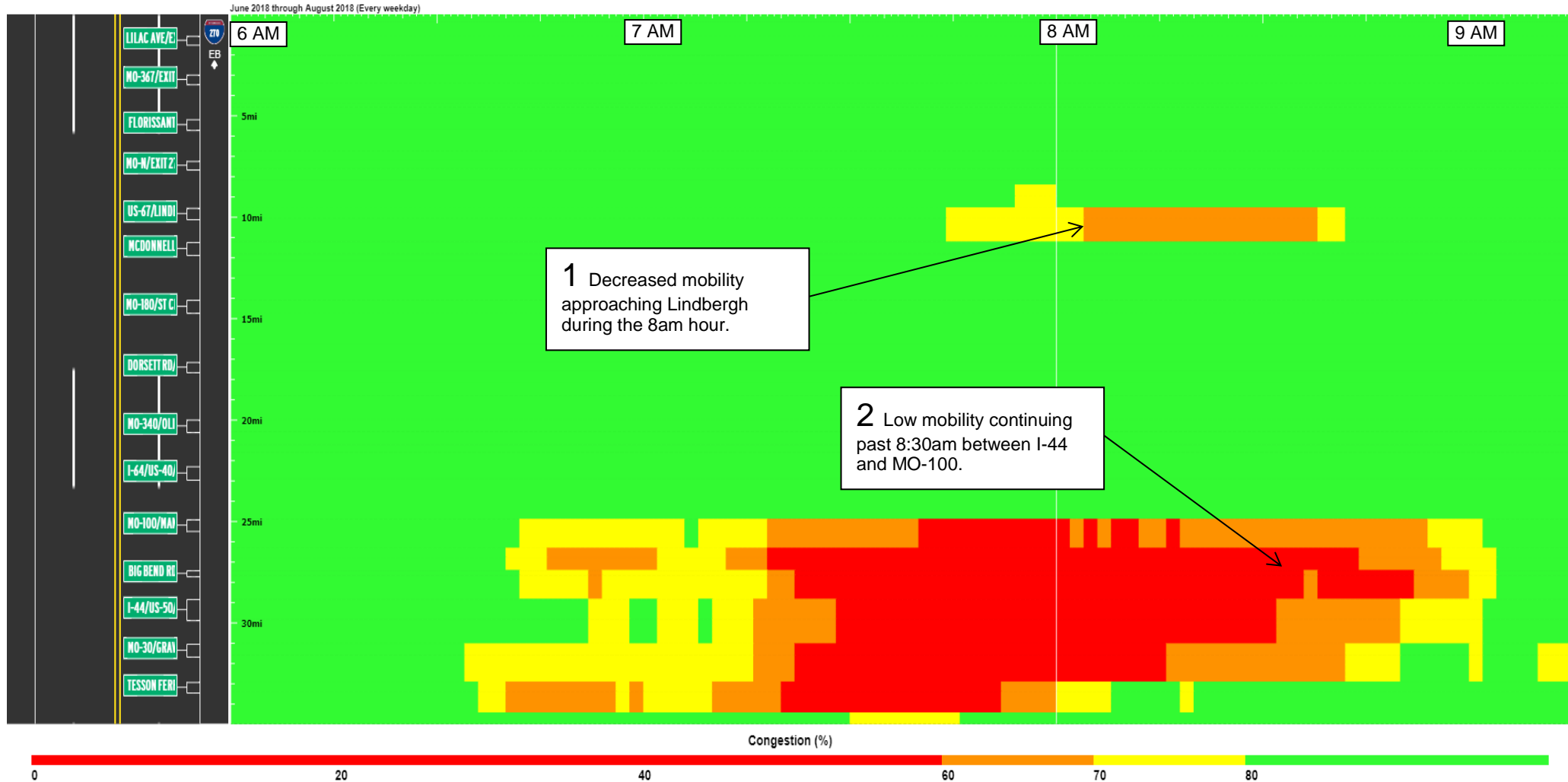
FREEWAY MANAGEMENT

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AM 2018 NB/EB I-270

NB/EB I-270 between I-55/I-255 and Riverview Dr.

Averaged by 2 minutes for June 2018 through August 2018 (Every weekday)





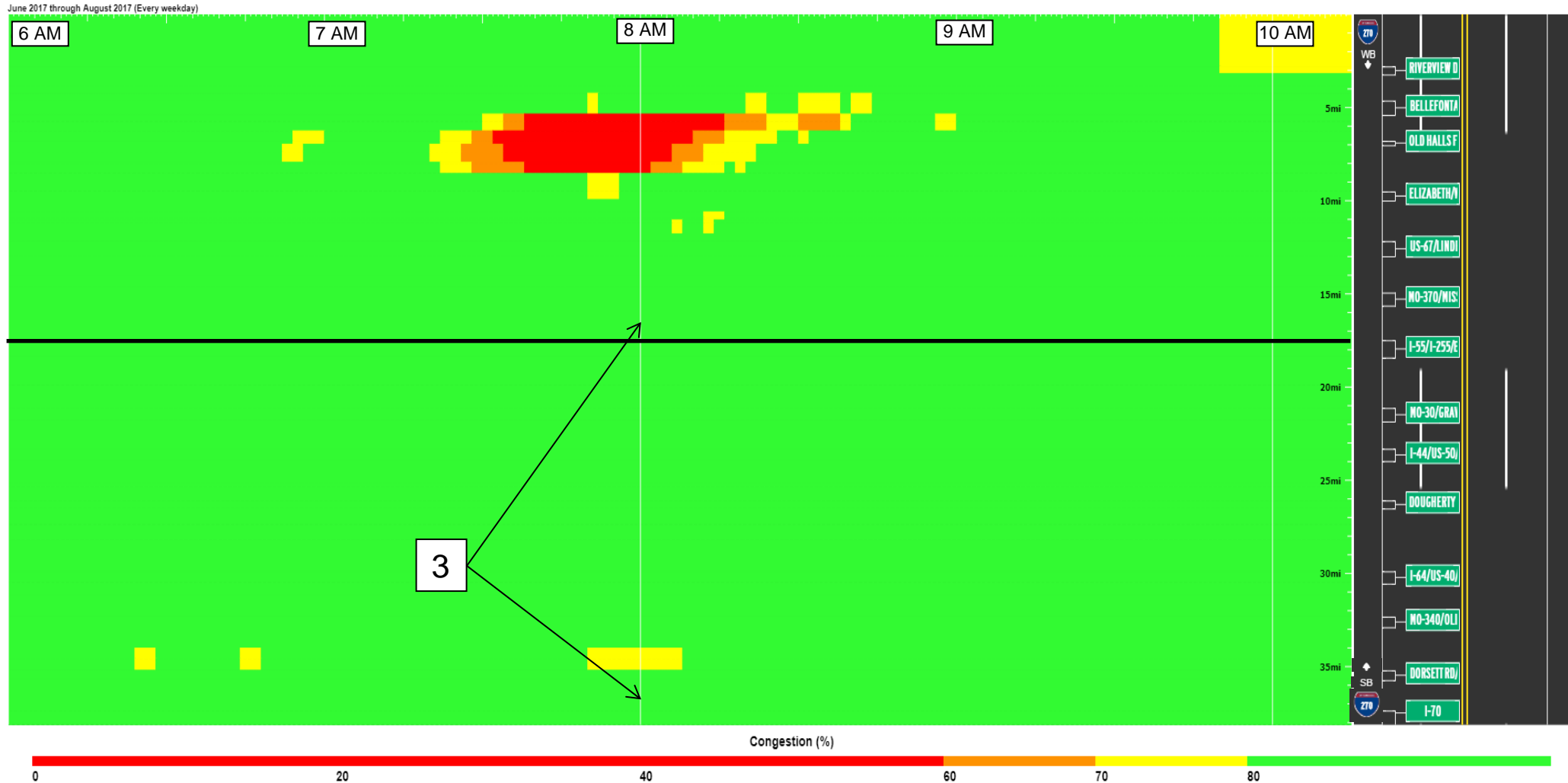
FREEWAY MANAGEMENT

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AM 2017 WB/SB I-270

WB I-270 between Riverview Dr. and MO-180 and SB I-270 between I-55/I-255 and I-70

Averaged by 2 minutes for June 2017 through August 2017 (Every weekday)





FREEWAY MANAGEMENT

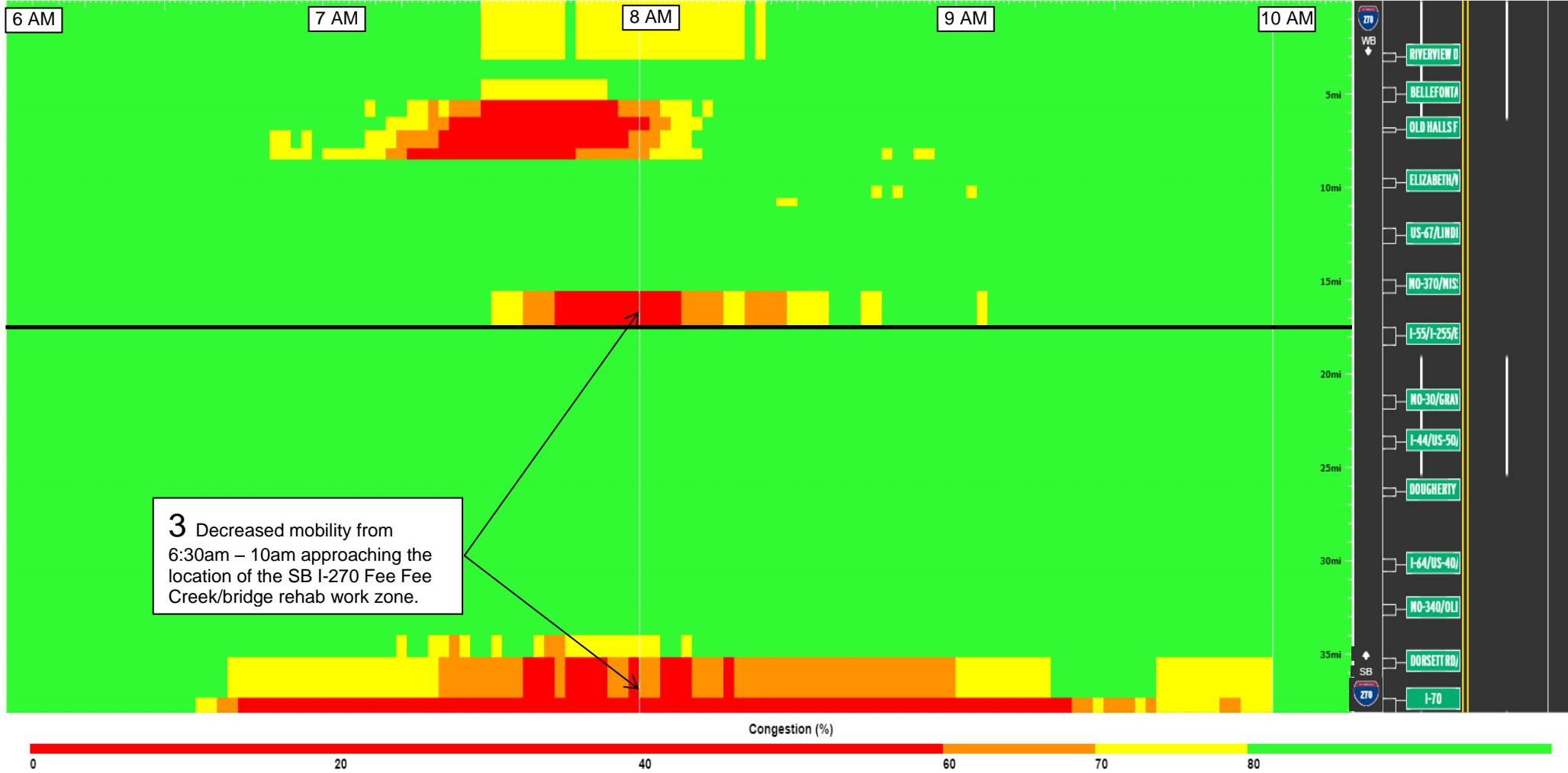
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AM 2018 WB/SB I-270

WB I-270 between Riverview Dr. and MO-180 and SB I-270 between I-55/I-255 and I-70

Averaged by 2 minutes for June 2018 through August 2018 (Every weekday)

June 2018 through August 2018 (Every weekday)



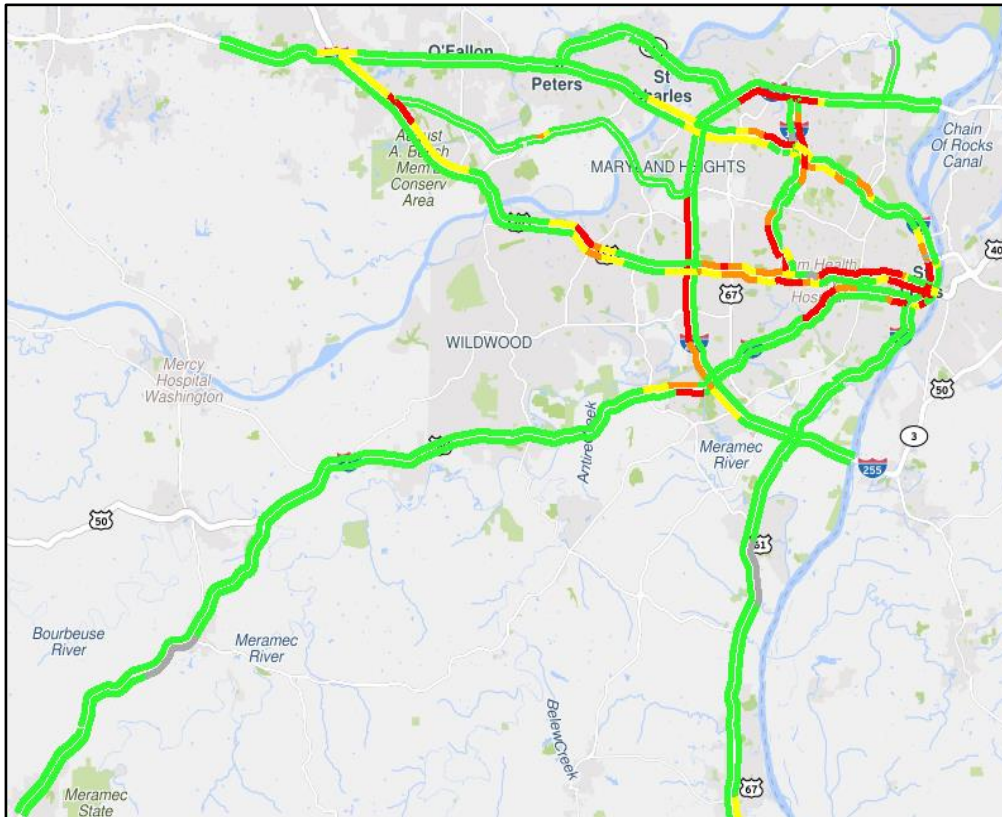


FREEWAY MANAGEMENT

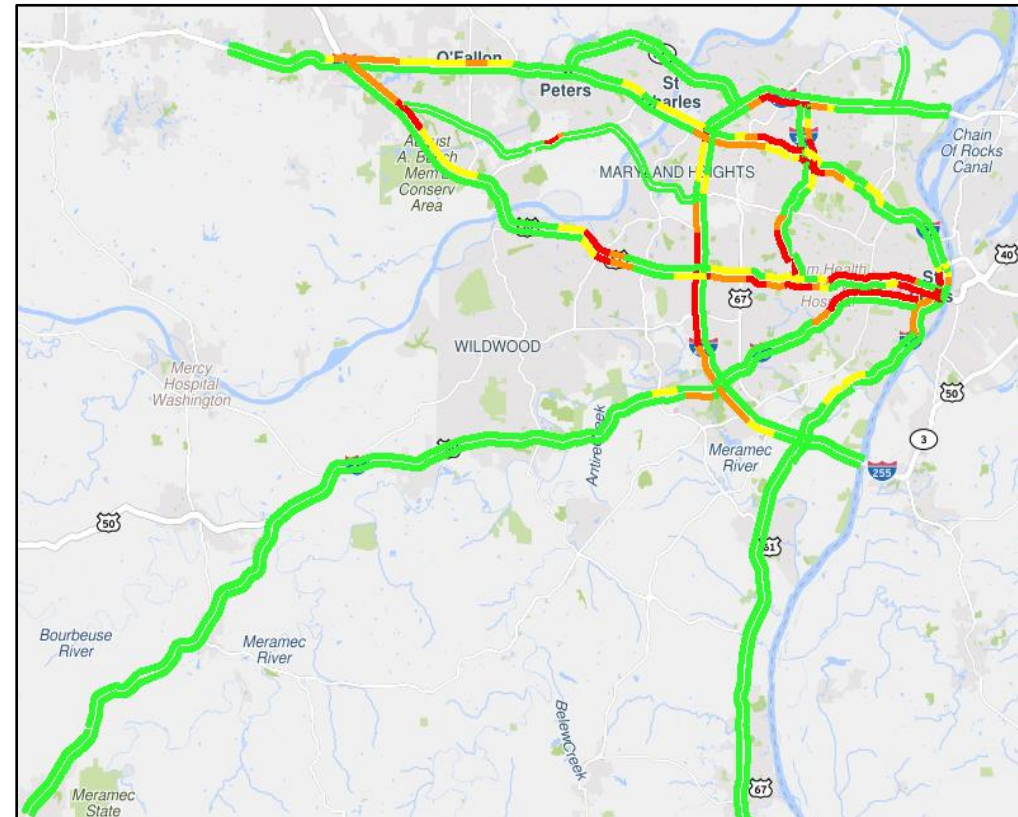
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INCREASE in Overall PM Mobility

PM Peak Mobility June/July/August 2017 vs 2018 *



2017



2018

Regional % of free-flow speed hourly breakdown**:

	2017	2018
3 PM	95.6%	94.9%
4 PM	87.6%	88.6%
5 PM	85.2%	86.4%
6 PM	98.6%	99.1%

* 5pm hour shown

**Regional % of free-flow speed is the averaged % of free-flow speeds for all directions of all freeways within the St. Louis District. This provides a high-level measurement of overall regional mobility for each peak hour.

Highlighted Corridor PM Summary

I-270

I-255/I-55 to Riverview

Comparing PM June/July/August 2017 vs 2018

PM NB/EB I-270 Overall Mobility INCREASED 2017 → 2018, but mobility DECREASED during the 3pm – 4pm hour for 2018.

PM WB/SB I-270 Overall Mobility INCREASED 2017 → 2018, but mobility DECREASED during the 2pm – 3pm hour for 2018.

Active Work Zones During Report Period

- SB I-270 between I-70 and Dorsett, 3 lanes (Bridge Rehabilitation at Fee Fee Creek)
- NB I-270 between I-70 and Dorsett, 3 lanes (Bridge Rehabilitation at Fee Fee Creek)
- NB I-270 at McKelvey, 1 lane (McKelvey Bridge Painting)

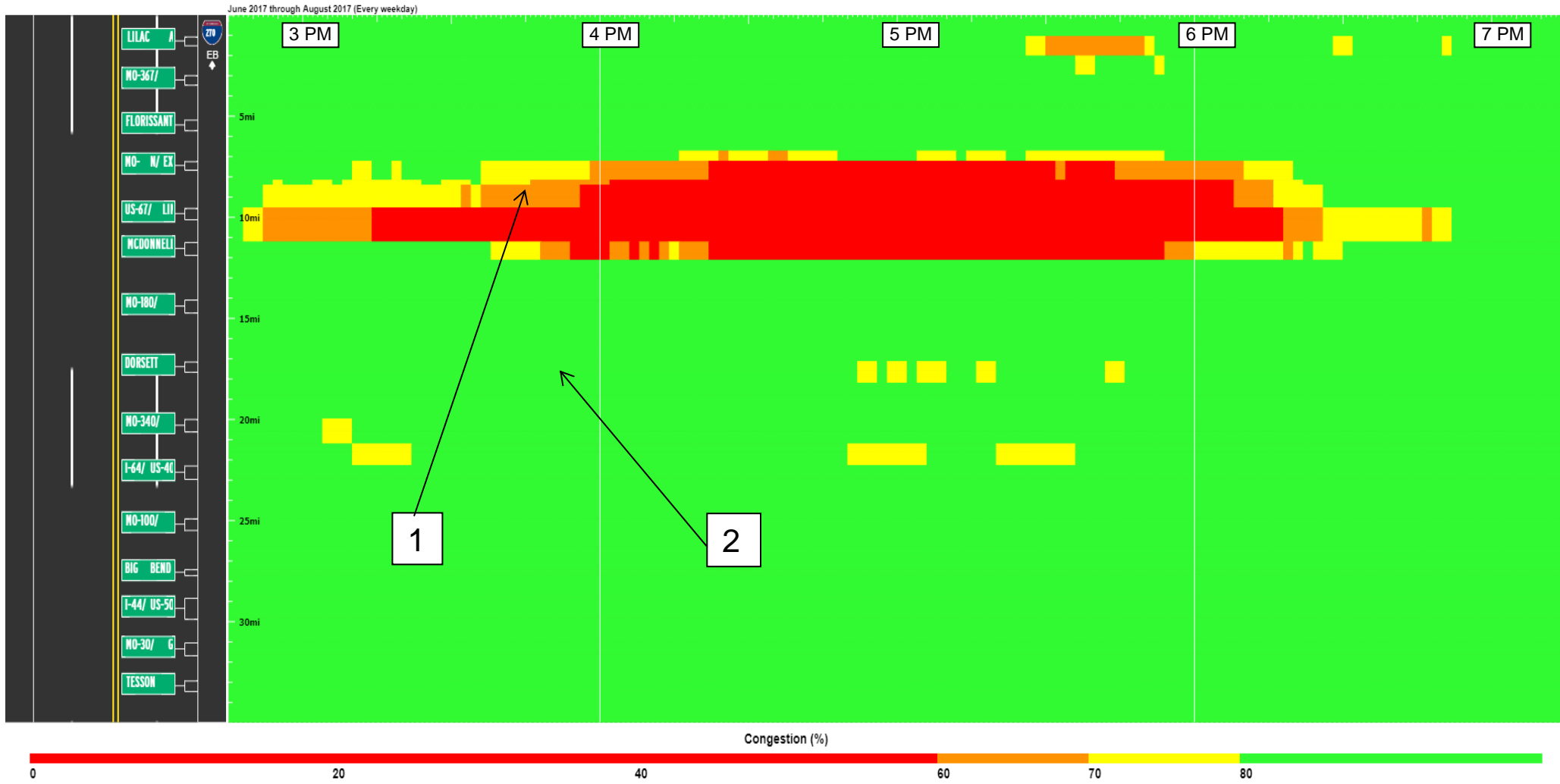


FREEWAY MANAGEMENT

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PM 2017 NB/EB I-270

NB/EB I-270 between I-55/I-255 and Riverview Dr.
Averaged by 2 minutes for June 2017 through August 2017 (Every weekday)





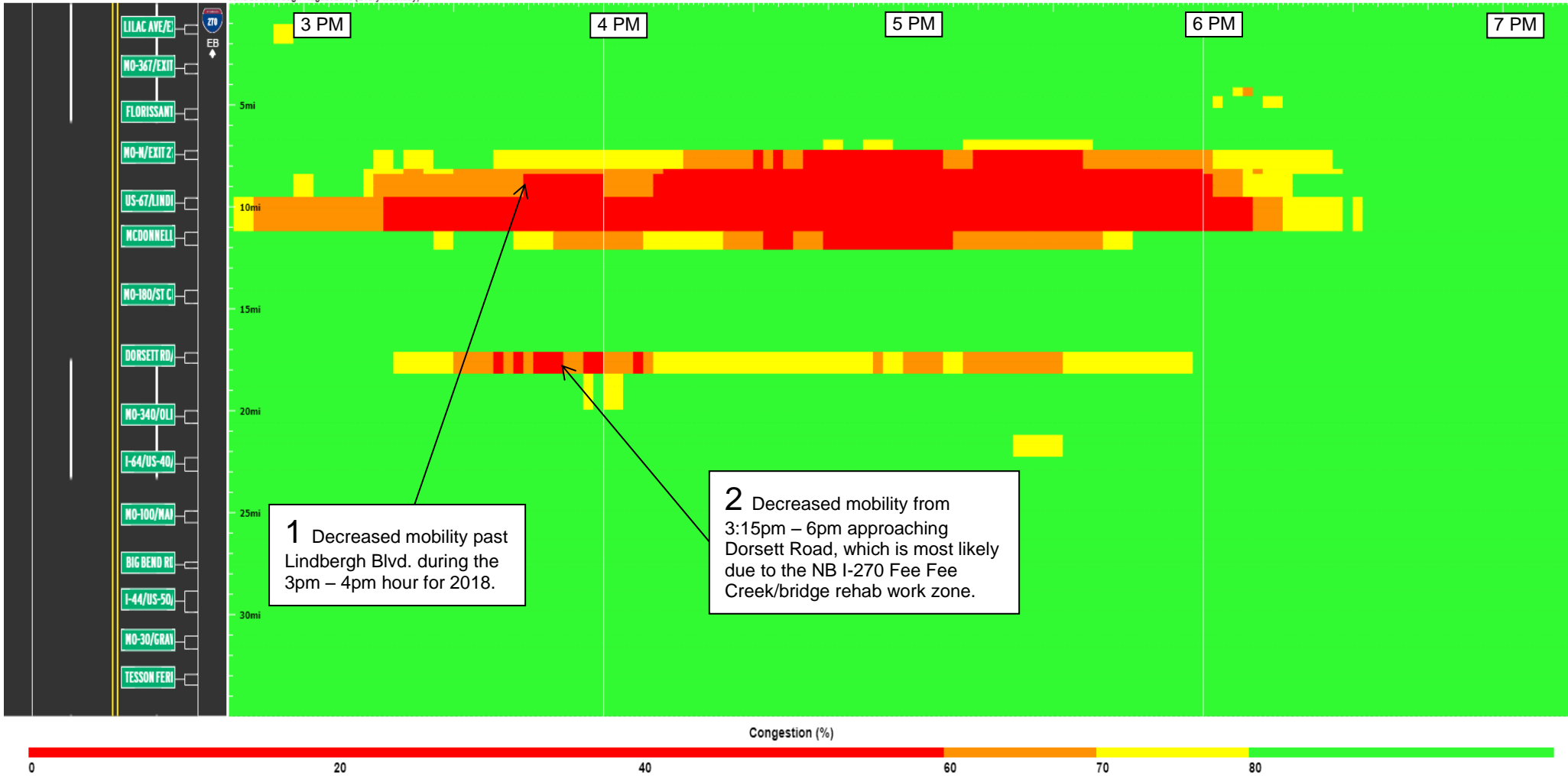
FREEWAY MANAGEMENT

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PM 2018 NB/EB I-270

NB/EB I-270 between I-55/I-255 and Riverview Dr.
Averaged by 2 minutes for June 2018 through August 2018 (Every weekday)

June 2018 through August 2018 (Every weekday)





FREEWAY MANAGEMENT

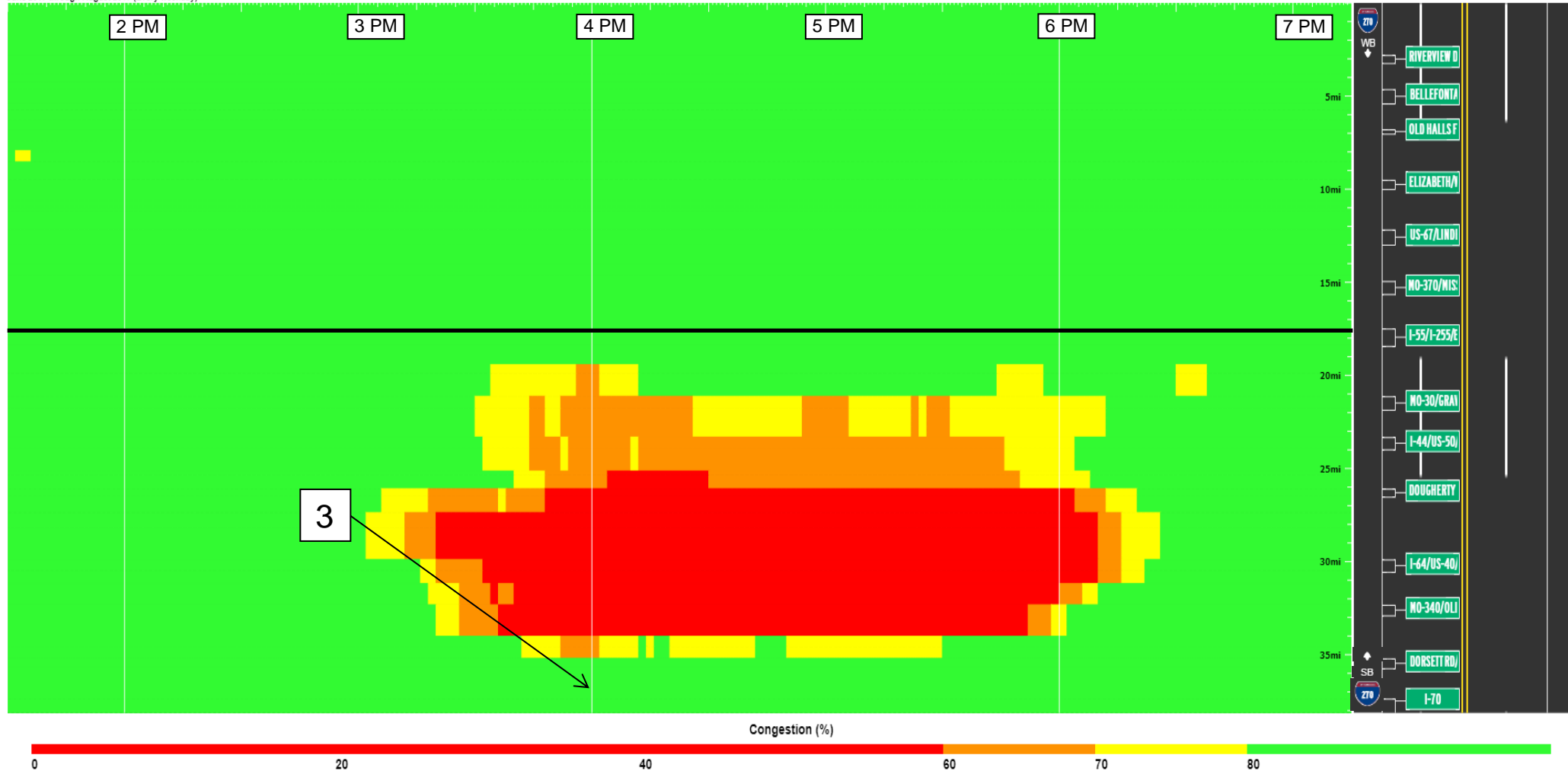
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PM 2017 WB/SB I-270

WB I-270 between Riverview Dr. and MO-180 and SB I-270 between I-55/I-255 and I-70

Averaged by 2 minutes for June 2017 through August 2017 (Every weekday)

June 2017 through August 2017 (Every weekday)



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FREEWAY MANAGEMENT

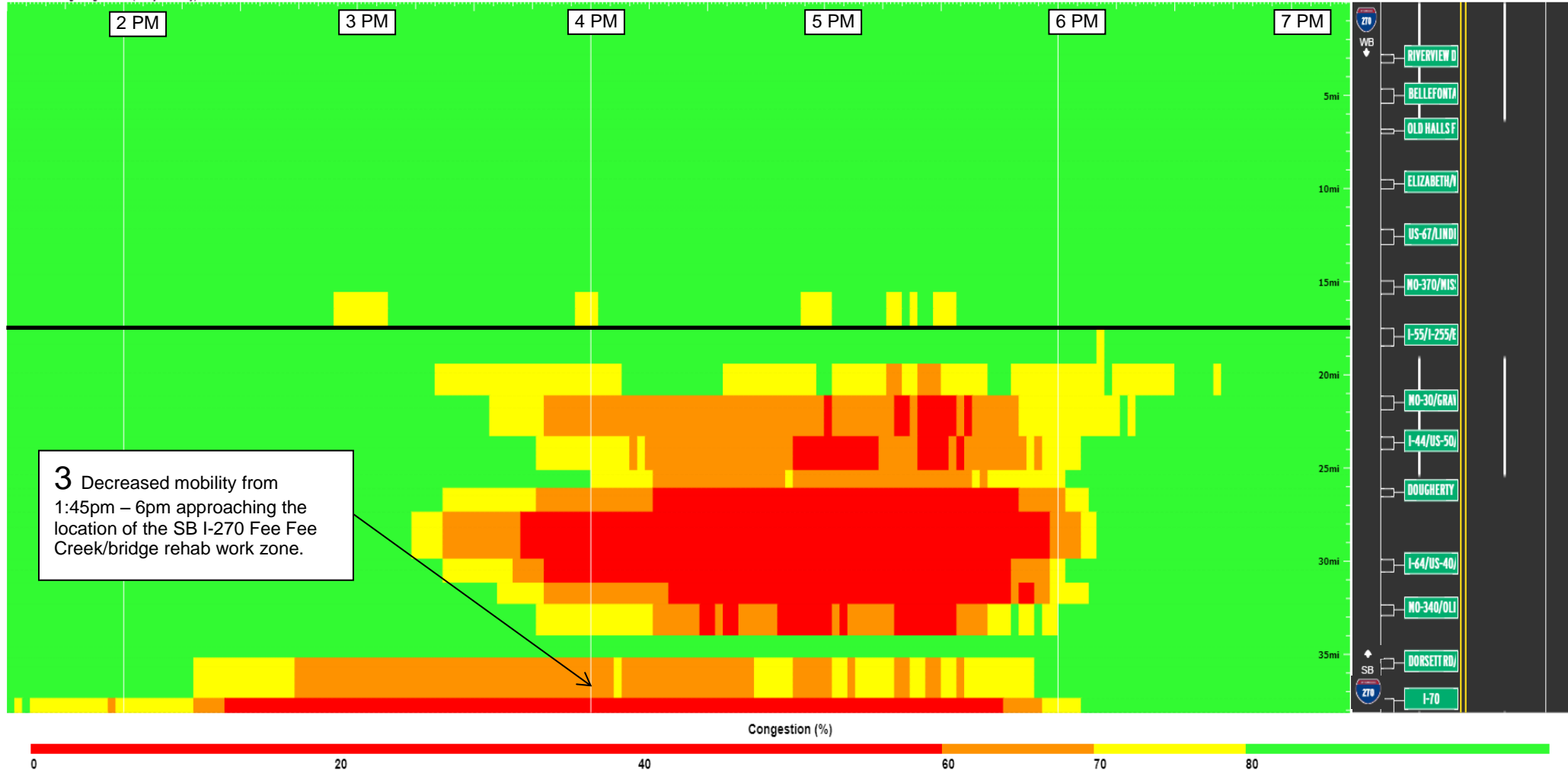
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PM 2018 WB/SB I-270

WB I-270 between Riverview Dr. and MO-180 and SB I-270 between I-55/I-255 and I-70

Averaged by 2 minutes for June 2018 through August 2018 (Every weekday)

June 2018 through August 2018 (Every weekday)





TMC Observed Work Zones

	June 2018	July 2018	August 2018
Level of Travel Time Impact	Number of Work Zones	Number of Work Zones	Number of Work Zones
Major Impact	1	1	0
Moderate Impact	2	2	0
Minor Impact	222	204	211
Total	225	207	211

◆ Goal: 91%

SL Mobility Rating:

- ◆ Jun 2018: 94%
- ◆ Jul 2018: 92%
- ◆ Aug 2018: 93%

SL Visibility levels:

- ◆ Jun 2018: 91%
- ◆ Jul 2018: 91%
- ◆ Aug 2018: 94%



Additional Travel Time Impacts through Work Zones

Major Impact (15 Minutes or Above): # Moderate Impact (10-14 Minutes): # # #

(6/5) Eastbound I-64 at 14th Street (Bridge work)

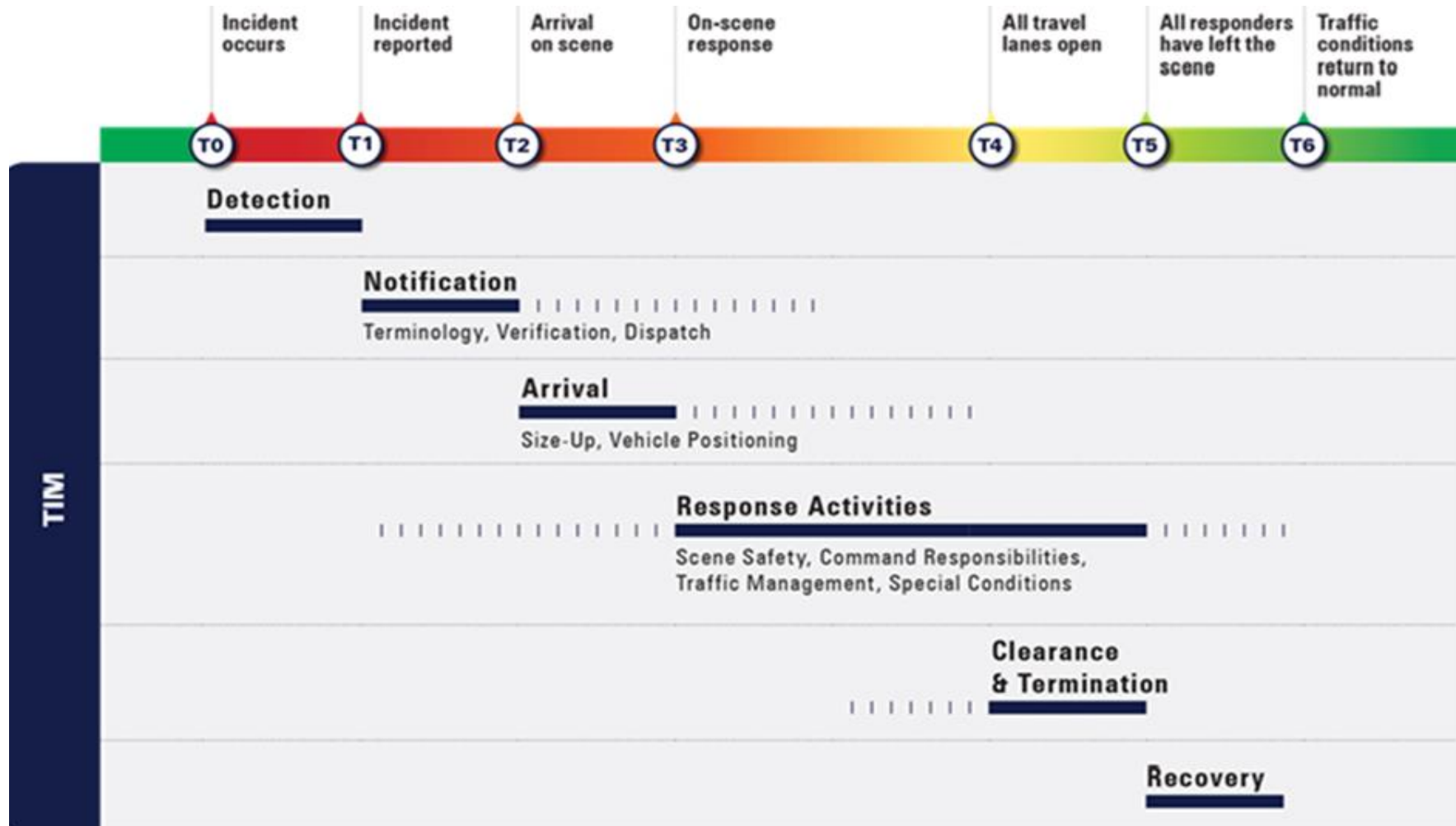
- Bridge work with one Eastbound lane closed
- All mitigation efforts were in use
- RITIS data recorded additional travel times up to 29 minutes during non-peak hours

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(7/9) Southbound I-270 at Dorsett

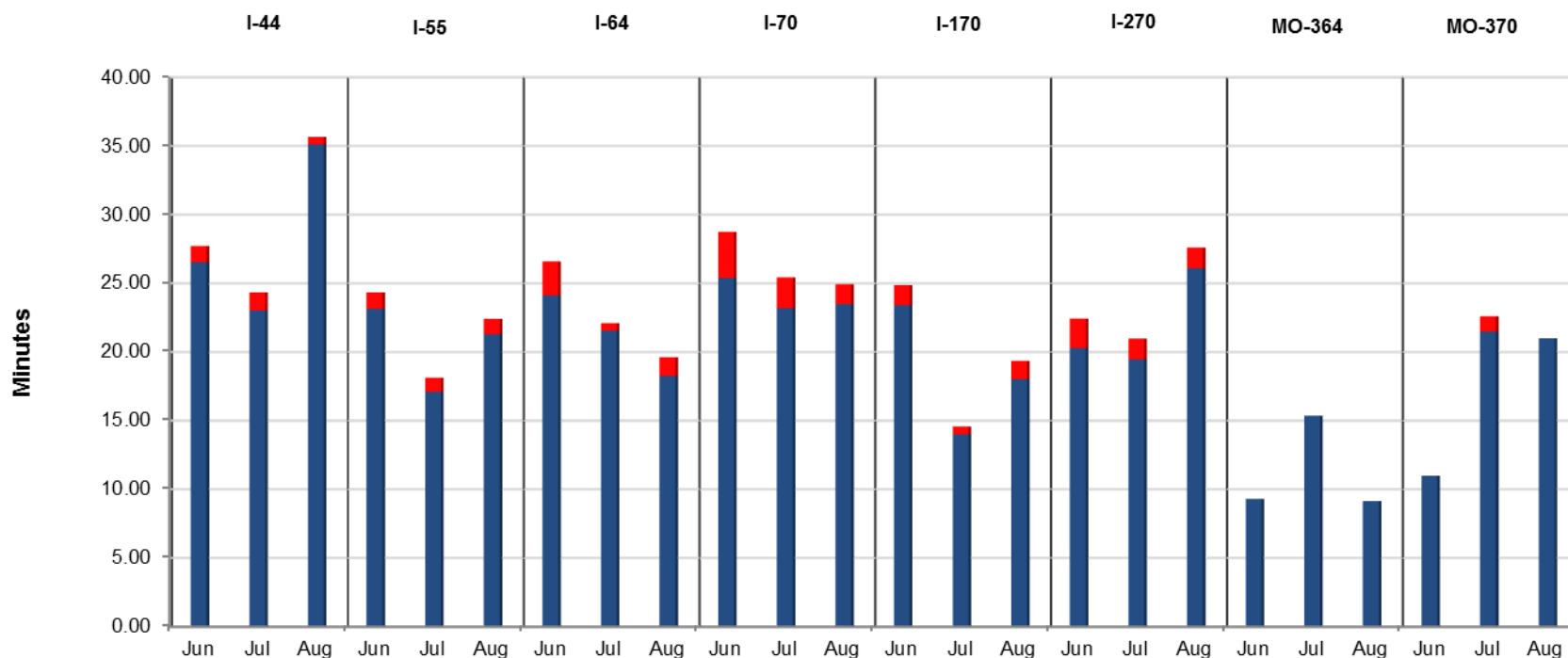
- Stage 3 with all traffic moved to the Southbound lanes
- All mitigation efforts were in use
- RITIS data recorded additional travel times up to 15 minutes during non-peak hours

1 2





June / July / August 2018 Incidents Summary



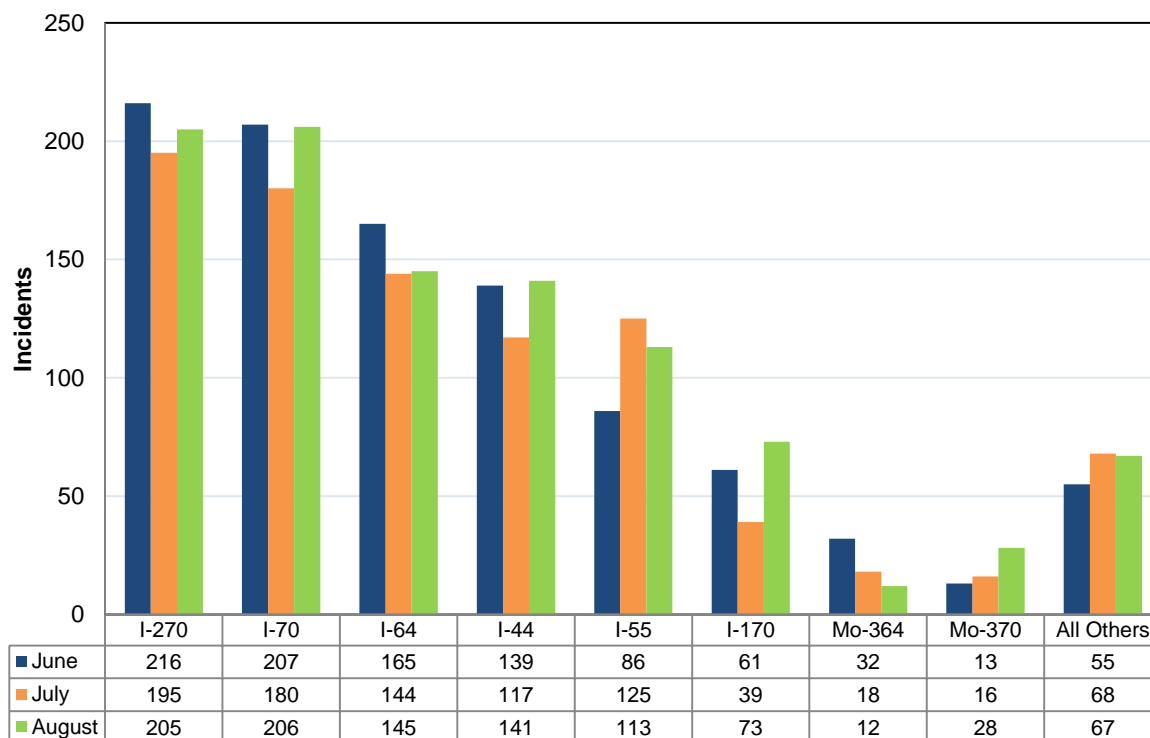
■ Average Time for Backup to Clear = T6 - T4

■ Average Time to Clear Incident from Lanes = T4 - T1



Total Number of Incidents: / June: 974 / July: 902 / August: 990

**Total Number of
Lane Blocking Incidents**



Major Impact Incidents

June	July	August
(1)	(3)	(3)

Fatal Incidents

June	July	August
(5)	(2)	(6)

Tractor Trailer Incidents

June	July	August
(51)	(54)	(58)



INCIDENT MANAGEMENT

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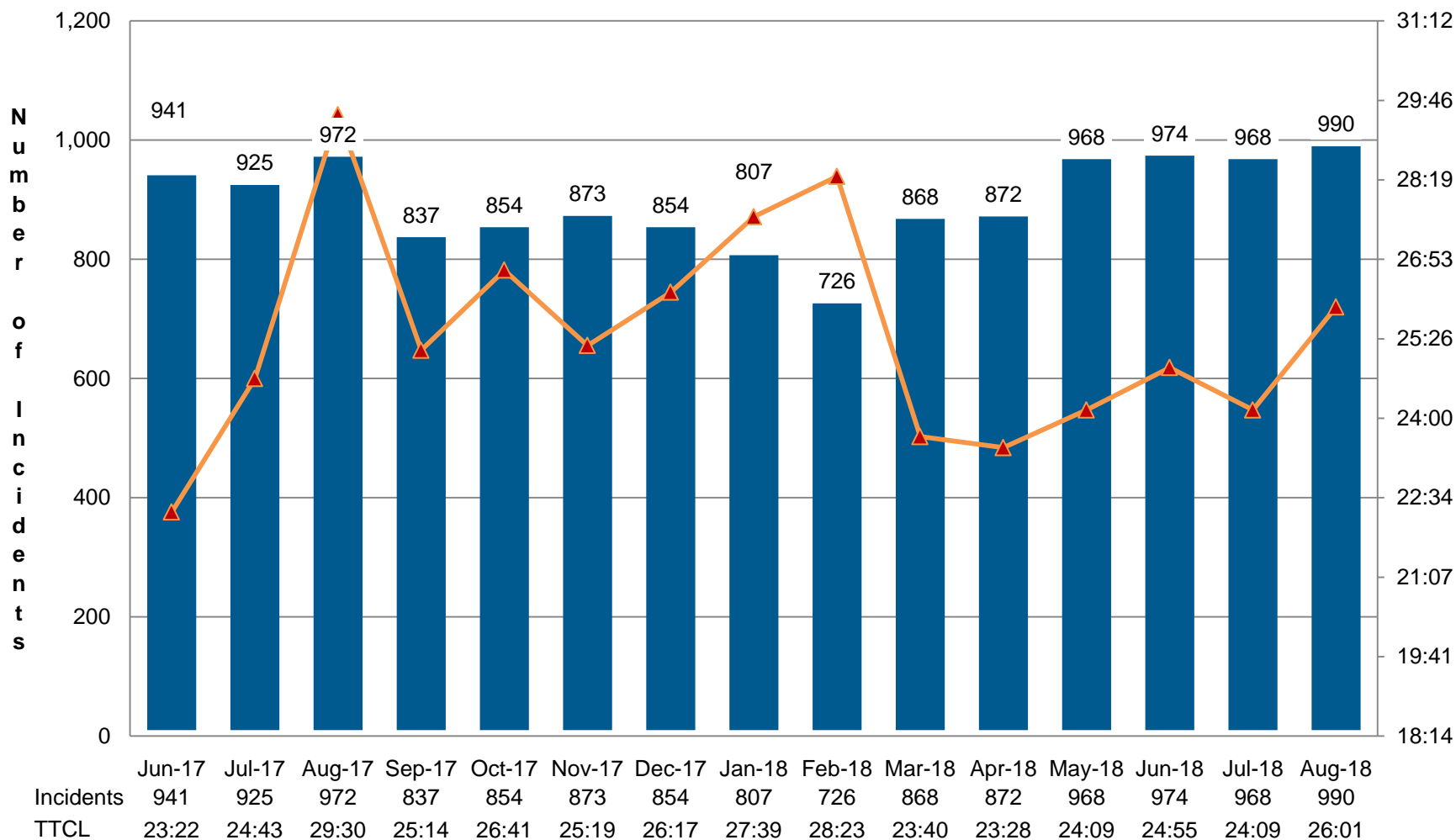
Lane Blocking Incidents by Freeway June, July, August 2018

Interstate	Month	Number of Incidents	Average Time to Clear Incident from Lanes = T4 - T1	Average Time for Backup to Clear = T6 - T4	Freeway Miles	Incidents per Mile
I-44	June	139	26:54	01:17	33	4.21
I-44	July	117	22:38	00:34	33	3.55
I-44	August	141	35:12	00:55	33	4.27
I-55	June	86	23:16	01:18	23	3.74
I-55	July	125	15:39	00:16	23	5.43
I-55	August	113	21:28	01:13	23	4.91
I-64	June	165	24:12	02:47	40	4.13
I-64	July	144	17:09	02:07	40	3.60
I-64	August	145	18:25	01:37	40	3.63
I-70	June	207	25:40	03:36	38	5.45
I-70	July	180	28:44	02:59	38	4.74
I-70	August	206	23:49	01:44	38	5.42
I-170	June	61	23:40	01:47	11	5.55
I-170	July	39	23:13	01:25	11	3.55
I-170	August	73	18:01	01:34	11	6.64
I-270	June	216	20:28	02:14	36	6.00
I-270	July	195	21:41	02:13	36	5.42
I-270	August	205	26:09	01:53	36	5.69
MO-364	June	32	09:30	00:00	11	2.91
MO-364	July	18	07:52	00:43	11	1.64
MO-364	August	12	09:15	00:00	11	1.09
MO-370	June	13	11:00	00:00	13	1.00
MO-370	July	16	30:05	00:00	13	1.23
MO-370	August	28	21:00	00:00	13	2.15
Total	Jun/Jul/Aug	2676	21:02	01:21	602	4.45



2017 - 2018 Number of Incidents and Time to Clear Lanes

Time to Clear Lanes



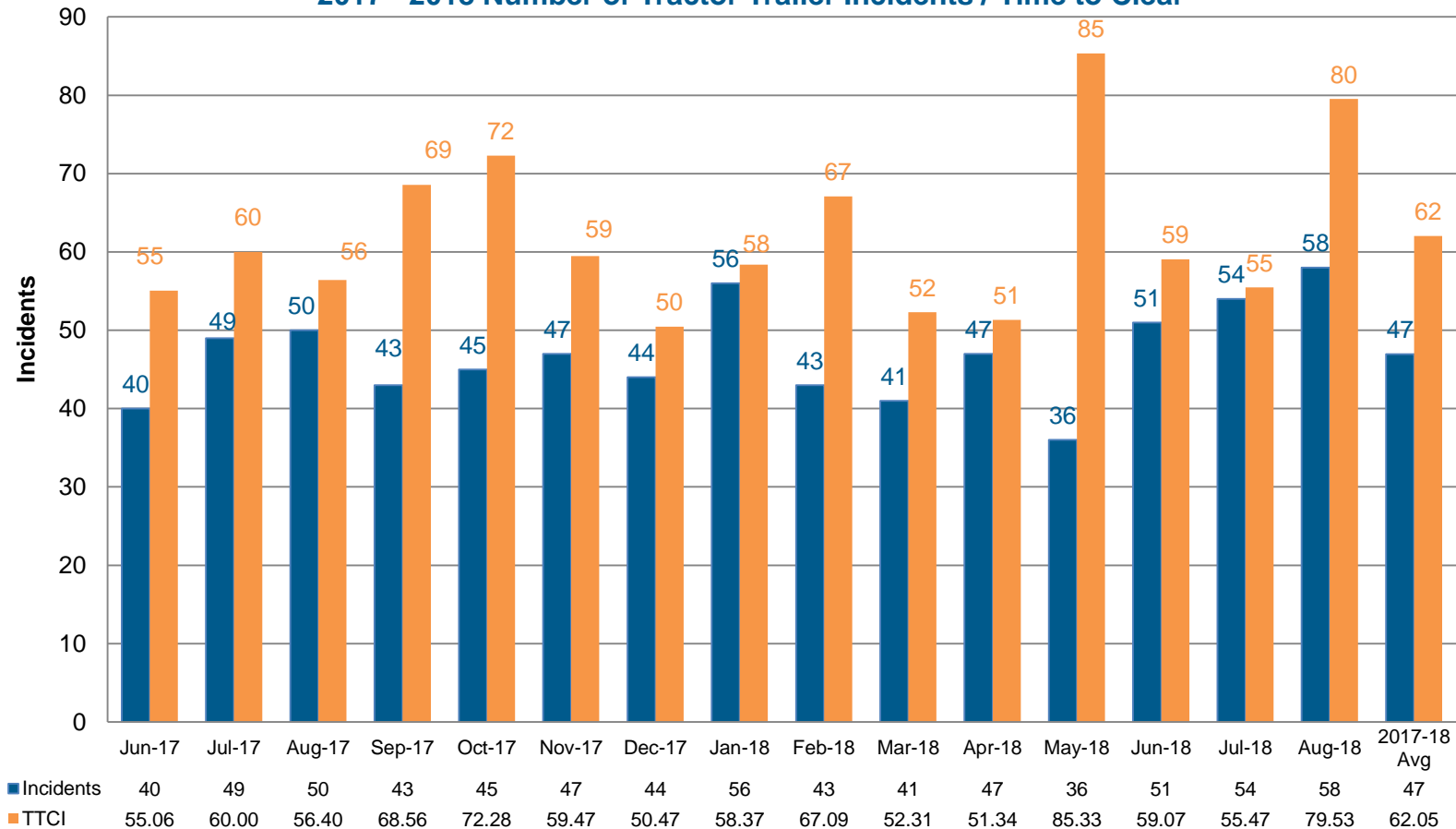


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2017 - 2018 Number of Tractor Trailer Incidents / Time to Clear





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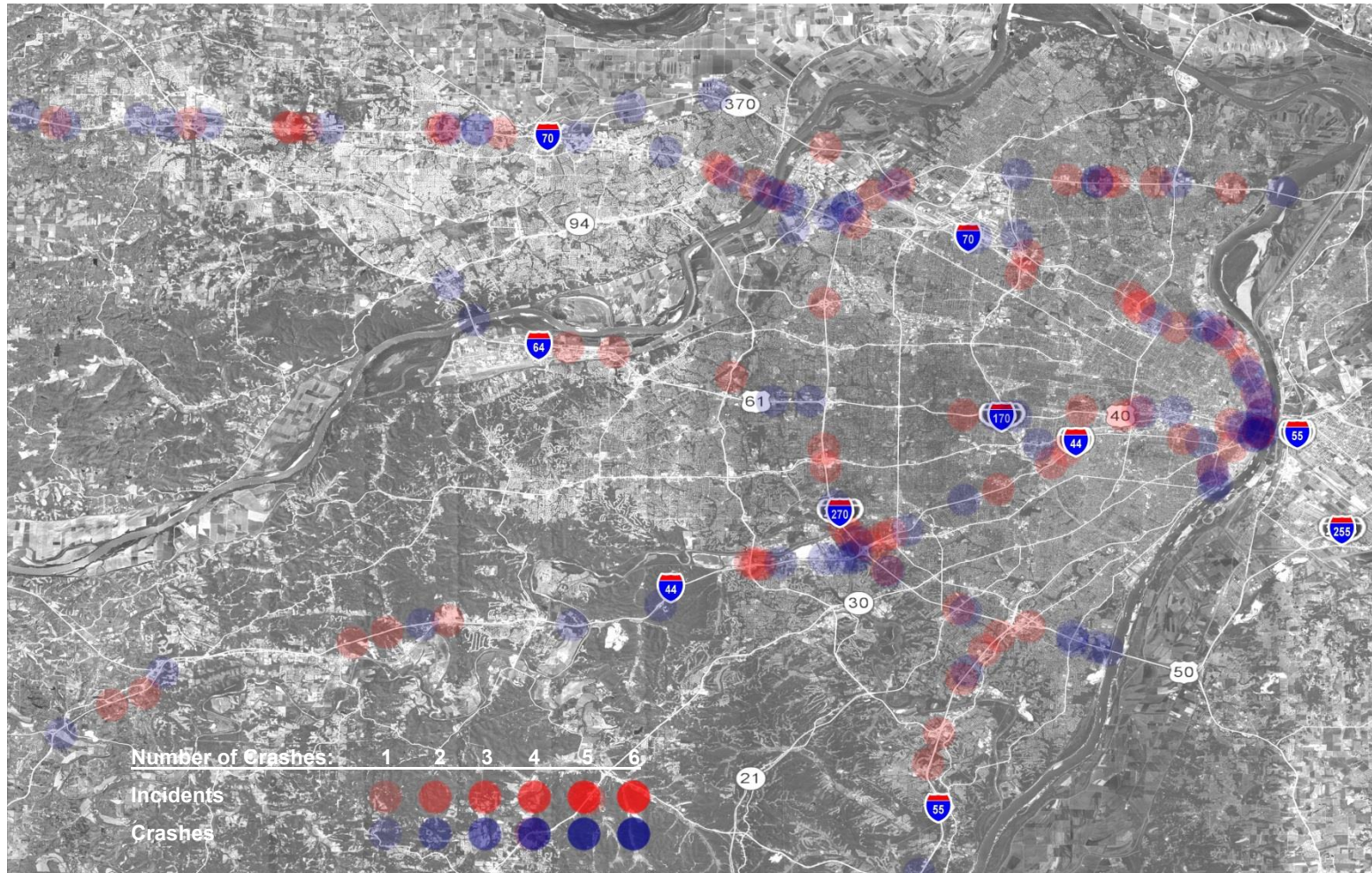
2018 Tractor Trailer Incidents by Route

2018	I-44	I-55	I-64	I-70	I-170	I-255/I-270	Route 364	Route 370	Other	Total
Jan	10	2	8	15	3	16	0	1	1	56
Feb	9	3	4	12	1	11	0	0	3	43
Mar	6	9	1	14	0	10	0	0	1	41
Apr	12	4	5	12	0	9	0	1	3	47
May	11	4	3	11	0	6	0	1	0	36
Jun	10	4	8	20	0	8	0	1	0	51
Jul	14	6	9	13	1	7	0	2	2	54
Aug	13	6	4	16	1	14	0	1	3	58
Sep										
Oct										
Nov										
Dec										

Yearly Total	85	38	42	113	6	81	0	7	13	385
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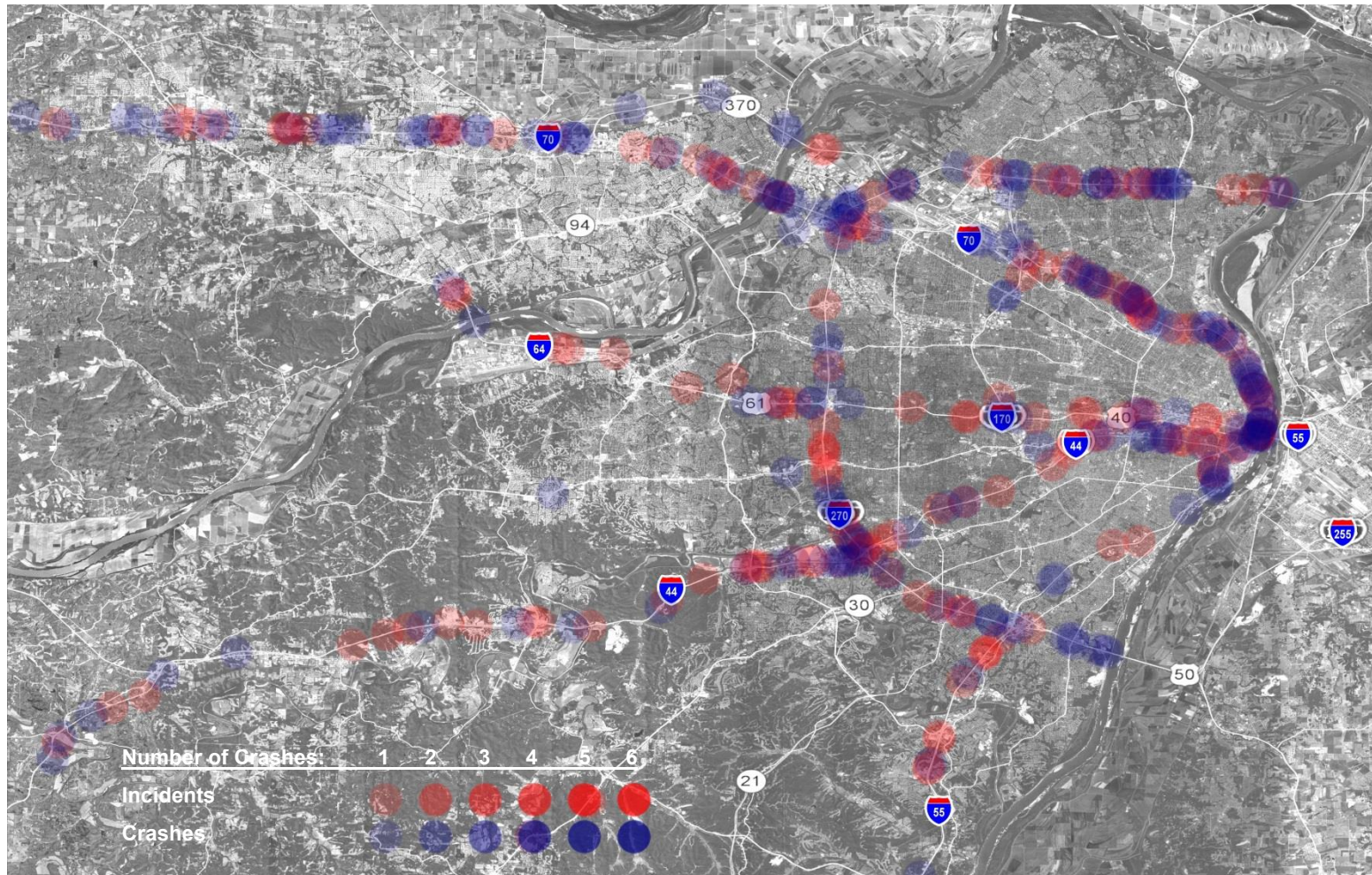


June 2018 – August 2018 Tractor Trailer Incidents Map





January 2018 – August 2018 Tractor Trailer Incidents Map





INCIDENT MANAGEMENT

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Incidents over Two Hours June / July / August 2018

Incidents in red denote high mobility impact

#	Date & Time	Day of Week	Route	Location	Description	Duration HH/MM
1	6/1/2018 23:49	Friday	I-270 WB	PAST W FLORISSANT AVE	Three-vehicle fatal crash with reconstruction	3:52
2	6/9/2018 13:27	Saturday	I-170 NB	AT PAGE AVE	Rocks and mud debris on roadway	2:26
3	6/12/2018 4:48	Tuesday	I-44 WB	PAST ARSENAL ST	Stalled tractor trailer with flat tire	2:03
4	6/13/2018 4:25	Wednesday	I-70 EB	PAST TUCKER BLVD	Stalled tractor trailer with trailer on its side	2:04
5	6/13/2018 15:18	Wednesday	44 LP	OSAGE ST CST	Railcar lost a wheel and overturned on roadway	2:16
6	6/14/2018 17:58	Thursday	W WATSON RD CST	CULVER HILL DR CST	Tree in roadway with live wires underneath	9:38
7	6/15/2018 9:30	Friday	I-55 SB	AT I-255	Tractor trailer lost its shipping container	2:20
8	6/17/2018 11:58	Sunday	I-64 WB	AT MISSOURI RIVER	Multi-vehicle fatal crash	3:42
9	6/21/2018 6:31	Thursday	I-55 NB	AT POTOMAC ST	Pedestrian struck resulting in a fatality	2:15
10	6/23/2018 11:29	Saturday	I-44 WB	ON RAMP FROM ANTIRE RD	Gravel and wet sand debris in roadway	2:40
11	6/23/2018 17:16	Saturday	MACKENZIE RD CRD	HEEGE RD CRD	Utility cut patched by Emergency Response	2:36
12	6/23/2018 22:26	Saturday	47 MO	AD RT	Two-vehicle fatal rollover crash with reconstruction	2:47
13	6/24/2018 3:19	Sunday	I-44 WB	AT BIG BEND BLVD	Two-vehicle crash with a delay in tow recovery	2:44
14	6/24/2018 6:22	Sunday	I-44 WB	AT ELM AVE	Crash reconstruction event	2:42
15	6/24/2018 9:01	Sunday	I-64 EB	BEFORE KINGSHIGHWAY BLVD	Stalled truck with a delay in tow recovery	2:47
16	6/25/2018 11:37	Monday	I-44 EB	AT ANTIRE RD	Single-vehicle tractor trailer crash; cargo of 23 crates of grapes off-loaded	6:11
17	6/26/2018 19:14	Tuesday	I-255 EB	ON RAMP FROM TELEGRAPH RD	Two-vehicle crash with debris and mud on road	2:25
18	6/28/2018 6:26	Thursday	61 US	P RT	Two-vehicle double fatal crash	3:38
19	6/28/2018 20:57	Thursday	ADELAIDE AVE CST	HALL ST CST	Roadway light knocked down in roadway	2:45
20	6/29/2018 20:39	Friday	I-70 WB	BEFORE ROUTE T/W	Two-vehicle overturned tractor trailer crash	2:49
21	7/5/2018 3:15	Thursday	I-64 EB	AT I-44	Pedestrian fatally struck walking WB in EB lanes across Mississippi River bridge	4:24



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#	Date & Time	Day of Week	Route	Location	Description	Duration HH/MM
22	7/8/2018 23:17	Sunday	I-270 WB	AT RIVERVIEW DR	Single-vehicle fatal crash with reconstruction	3:45
23	7/10/2018 15:23	Tuesday	MO 370 WB	AT MO 94	Two-vehicle crash involving an overturned dump truck that lost a load of dirt	3:03
24	7/13/2018 15:29	Friday	I-70 WB	AT I-64	Tractor trailer load of batteries shifted and spilled battery acid on roadway	6:40
25	7/17/2018 0:12	Tuesday	WATSON RD CST	TRIANON LN CRD	Police investigation	3:03
26	7/25/2018 14:50	Wednesday	I-64 EB	AT 6TH ST	Oversize load struck overhead structure	4:00
27	7/26/2018 9:33	Thursday	I-64 WB	BEFORE I-170	Overturned non-hazardous tanker crash	2:32
28	7/30/2018 1:43	Monday	I-64 WB	PAST RESEARCH PARK CIR	Overturned tractor trailer crash	3:50
29	7/30/2018 21:00	Monday	US 67 NB	AT TROTTER WAY	Single vehicle crash into pedestrian pedestal	3:08
30	7/31/2018 23:53	Tuesday	I-44 EB	PAST I-64	Single vehicle crash with state damage	2:14
31	8/1/2018 16:38	Wednesday	I-270 SB	PAST ST CHARLES ROCK RD	Two-vehicle crash with air ambulance rescue	3:24
32	8/3/2018 14:29	Friday	I-44 EB	BEFORE MADISON	Overturned dump truck with spilled debris	2:04
33	8/4/2018 7:45	Saturday	I-44 WB	PAST ARSENAL ST	Stalled tractor trailer leaking paint	2:29
34	8/5/2018 2:29	Sunday	I-270 SB	AT PAGE AVE	Pedestrian fatally struck	3:50
35	8/7/2018 15:46	Tuesday	US 67 SB	AT HUNTLEIGH DR	Water main break with pavement buckled	2:09
36	8/7/2018 15:48	Tuesday	US 67 NB	AT HUNTLEIGH DR	Emergency vehicles for water main break	2:00
37	8/8/2018 10:45	Wednesday	I-44 WB	AT MO 141	Tractor trailer fire with cargo that was off-loaded	5:13
38	8/8/2018 23:19	Wednesday	I-70 EB	PAST HANLEY RD	TMA struck with injuries	2:22
39	8/10/2018 11:14	Friday	I-70 EB EXPRESS LANES	AT W FLORISSANT AVE	Single vehicle crash with towing problems	2:22
40	8/10/2018 13:06	Friday	I-70 EB	AT ZUMBEHL RD	Single vehicle crash Hot dog scraps spilled on road	2:13
41	8/10/2018 20:02	Friday	MANCHESTER RD	TOWER GROVE AVE CST	Very large pothole	3:45
42	8/13/2018 8:05	Monday	MANCHESTER RD	BIG BEND RD CST	Tractor trailer crash into power lines	6:43
43	8/13/2018 9:08	Monday	I-270 EB/WB	AT MISSISSIPPI RIVER	Jumper on bridge	2:04
44	8/14/2018 22:39	Tuesday	I-44 EB	BEFORE MURDOCH AVE	Tractor trailer fire with cargo melted together	9:05



INCIDENT MANAGEMENT

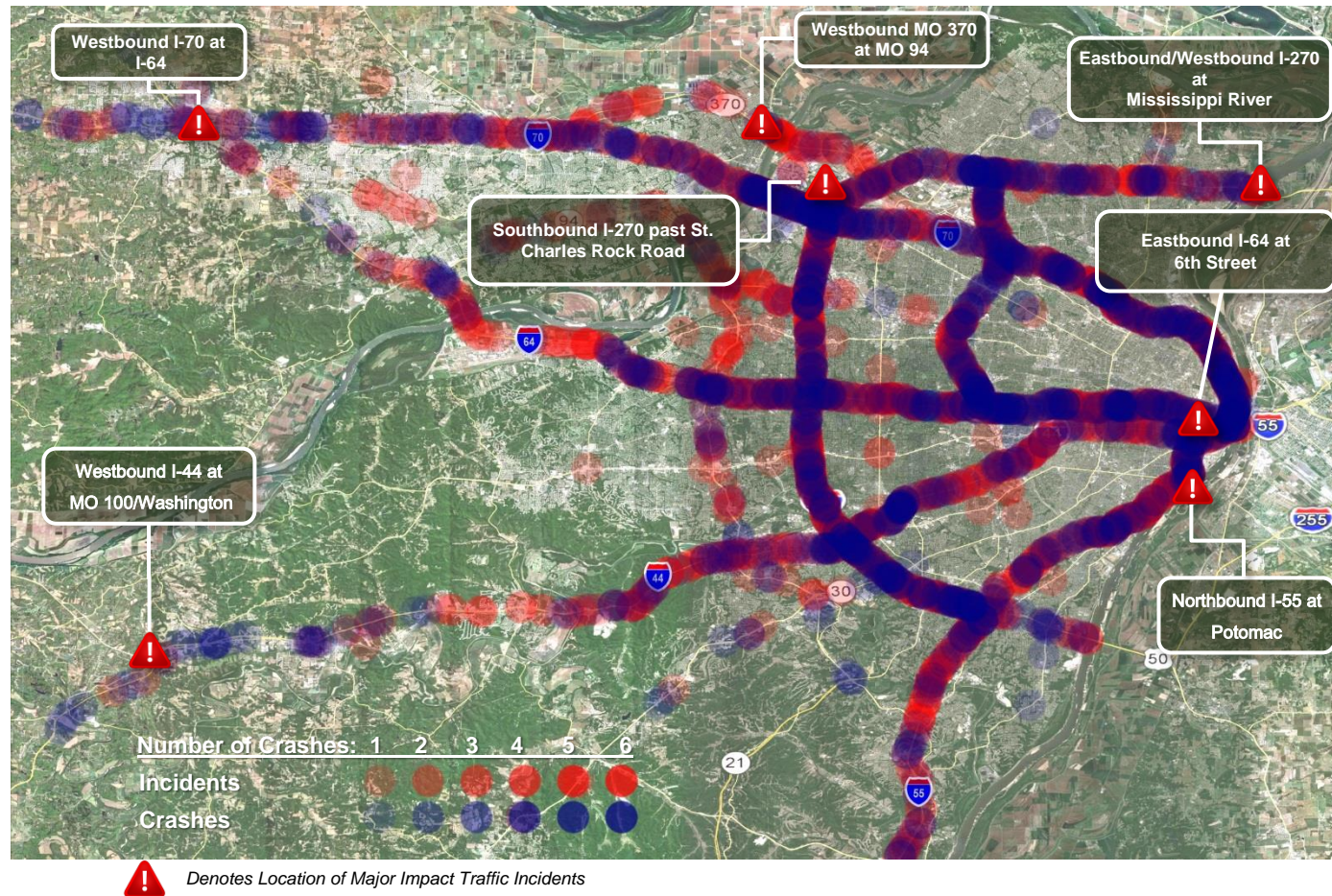
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#	Date & Time	Day of Week	Route	Location	Description	Duration HH/MM
45	8/15/2018 7:58	Wednesday	231 MO	DENACRE DR CRD	Two-vehicle fatal crash	3:42
46	8/15/2018 15:30	Wednesday	I-55 SB	AT BUTLER HILL RD	Tractor trailer crash	2:25
47	8/15/2018 20:22	Wednesday	I-44 EB	TO I-55 SB	Single- vehicle fatal crash with ejection	2:57
48	8/19/2018 22:19	Sunday	I-270 EB	TO WEST FLORISSANT AVE	Car hauler fire	4:33
49	8/20/2018 10:43	Monday	I-44 WB	ON RAMP FROM I-64 WB	Tractor trailer stalled	2:27
50	8/21/2018 23:39	Tuesday	I-44 WB	AT MO 100	Three-vehicle fatal crash	8:44
51	8/24/2018 7:29	Friday	180 MO	NORMANDY DR CST	Three-vehicle fatal crash	3:47
52	8/24/2018 14:34	Friday	I-55 NB	TO ROUTE M	Police chase and investigation	2:33
53	8/24/2018 15:02	Friday	I-255 EB	PAST KOCH RD	Jumper on bridge	2:10
54	8/26/2018 14:31	Sunday	ROUTE 367 NB	BEFORE PARKER RD	Three-vehicle crash involving an RV	2:30
55	8/28/2018 13:47	Tuesday	I-55 SB	BEFORE US 61	Two-vehicle crash / tractor trailer off roadway	2:10
56	8/29/2018 6:08	Wednesday	I-270 EB	TO NEW HALLS FERRY RD	Bus went wrong way up the ramp and got stuck	2:34
57	8/29/2018 12:51	Wednesday	I-44 EB	AT REST AREA	Two-vehicle crash with overturned tractor trailer	3:14
58	8/30/2018 8:43	Thursday	MO 370 WB	PAST MO 141	50 gallons of hydraulic fluid spilled on roadway	3:47
59	8/31/2018 9:04	Friday	I-270 SB	BEFORE TESSON FERRY RD	Water main break	2:58
60	8/31/2018 19:24	Friday	MO 30 EB	PAST OLD GRAVOIS RD	Double fatal crash motorcycle vs. van	4:15



June/July/August 2018 Incidents with Mobility Impact Map





INCIDENT MANAGEMENT


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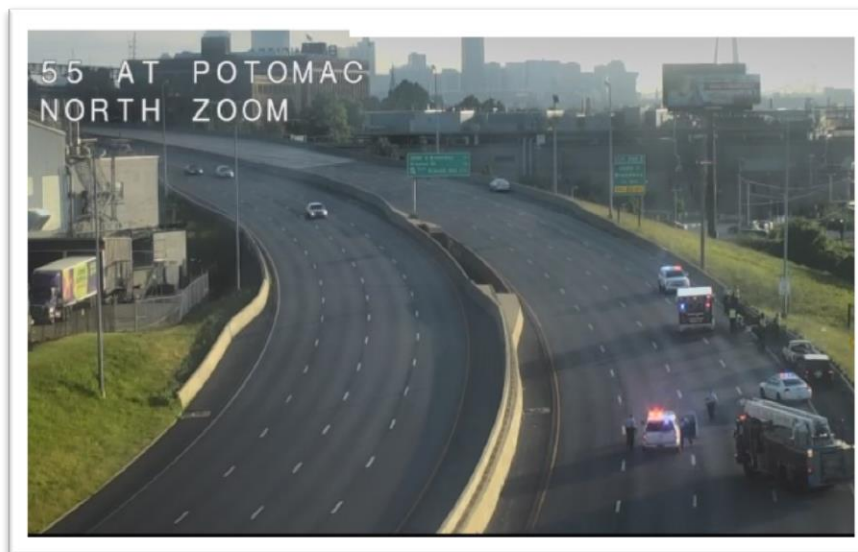


Major Impact Traffic Incidents and Mitigation

6/21/2018 (Thursday)

- **Time:** 6:31 am – 8:46 am ***Fatal***
- **Location:** St. Louis City – Northbound I-55 at Potomac
- **Event Type:** Single Vehicle Accident involving a pedestrian
- **Estimated Initial Impact:** Rush Hour: 4 of 4 Northbound travel lanes affected equals (=) 100%
- **Incident Details:** Passenger vehicle struck pedestrian while victim was filling a pickup truck's fuel tank with a portable container. Victim pronounced on scene.
- **Action Taken:** TMC confirmed incident via CCTV. St. Louis City PD was already on scene with a single right lane closed. ER was dispatched to the scene. Once St. Louis City Fire arrived, police began to close all lanes. The TMC then called PD to learn the details of the incident and more ER personnel were dispatched to the scene to set up a detour onto the 4500 S Broadway exit. Accident reconstruction crew arrived on scene at 6:46 am. TMC operators entered event into ATMS, activated appropriate DMS boards and notifications were made to MoDOT Communications, EOC, Motor Carrier Services and Area Engineer. A MoDOT traffic signal engineer was on site at the TMC and adjusted signals at the detour, as well as coordinated with St. Louis City Signals via telephone. Signal was changed from 60 second cycle length to 100 second cycle length detour plan 74 for both I-55 at 4500 Broadway northbound and southbound. When it was noticed that the ramp phase was not getting enough time, I-55 at 4500 Broadway northbound was put into manual free override and max time for the northbound off-ramp was changed from 30 seconds to 80 seconds. I-55 at 4500 Broadway southbound mainline Broadway was changed from 60 to 40 and the southbound off-ramp was changed from 30 to 20. Timing plans changed for I-55 at Carondelet and I-55 at Loughborough from a 90 second cycle length to 120 second cycle length detour plan 74. At 8:45 am, the signals were changed back to normal timing. Traffic queued 4.5 miles. Lengthy event time was due to accident reconstruction.
- **Event Duration:** 2 hours and 15 minutes

	Northbound I-55 at Potomac	Left Shoulder	Lane 1	Lane 2	Lane 3	Lane 4	Right Shoulder
	Closed Hours/Minutes	2:12	2:12	2:12	2:13	2:15	2:15






Major Impact Traffic Incidents and Mitigation

7/10/2018 (Tuesday)

- **Time:** 3:23 pm – 6:06 pm
- **Location:** St. Charles County – Westbound MO 370 at MO 94
- **Event Type:** Two-vehicle crash with injuries
- **Estimated Initial Impact:** Rush Hour: 2 of 3 travel lanes affected equals (=) 66%
- **Incident Details:** Overturned dump truck and passenger vehicle had 2 right lanes closed at the on ramp from MO 94. Dump truck had a full load of dirt.
- **Action Taken:** TMC confirmed incident via CCTV. St. Charles City PD was already on scene with 2 right lanes closed and ER was dispatched arriving shortly after St. Charles City Fire and EMS. Messaging was activated on MO 370, I-270 and MO 141 for one lane traffic. TMC contacted St. Charles City PD and asked if they could close the on-ramp from MO 94 before another incident occurred and they complied. It took two heavy tows to get the dump truck up righted. The dump truck company sent a crew and loader to clean the highway. Incident page was sent. Traffic queued 4.5 miles. Lengthy event time was due to difficulty up righting the dump truck and clearing dirt from highway.
- **Event Duration:** 3 hours and 3 minutes

 Route 370	Westbound MO 370 at MO 94	Lane 1	Lane 2	Lane 3	Lane 4	Right Shoulder
Closed Hours/Minutes		0:00	2:10	2:43	2:43	2:43





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Major Impact Traffic Incidents and Mitigation

7/13/2018 (Friday)

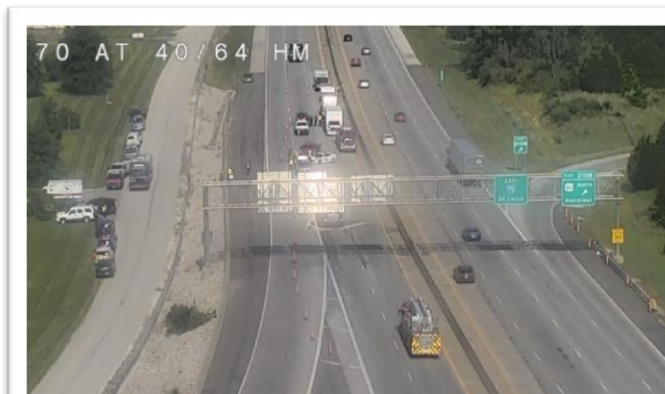
- **Time:** 3:29 pm – 10:09 pm
- **Location:** St. Charles County – Westbound I-70 at I-64
- **Event Type:** Stalled tractor trailer with battery acid spill
- **Estimated Initial Impact:** Rush Hour: 3 of 3 travel lanes affected equals (=) 100%
- **Incident Details:** Tractor Trailer carrying batteries suddenly stopped and the load shifted. As a result, batteries were damaged and battery acid began leaking out of trailer.
- **Action Taken:** TMC personnel spotted a full closure on Westbound I-70 before I-64. Wentzville PD arrived on scene and closed the highway until the Department of Natural Resources could arrive, assess and clean the battery acid. ER was dispatched. TMC personnel activated DMS boards within 3 minutes. Initially, only the closest boards were activated. The Wentzville Supervisor informed maintenance that TMA's and possibly materials to clean the acid would be needed. At that same time, Communications was notified, so they could try to warn motorists via Social Media. MSHP confirmed that they were contacting the Department of Natural Resources. At 3:38 pm, more DMS were added, to give further advanced warning for motorists. At 3:40 pm TMC personnel pushed out the DMS board usage even further, advising motorists to use I-64, if possible. At 3:45 pm, a floodgate was activated. Around this time, a detour was established (Northbound Route A to Southbound US 61 back down to Westbound I-70). PD put signals on flash at US 61 @ Route A, despite traffic engineers adjusting signals from the TMC. As ER arrived on the scene, they set up back at Route A. For several hours, there was very little change to the situation. Multiple DNR units arrived to help, but very little progress was made. At approximately 9:45 pm, the truck was drug off to a grassy field, past the interchange where DNR was able to neutralize the acid. When that was successful, all lanes were re-opened at 10:09 pm. The worst of the queue was observed at 10 miles on I-64 and 10 miles on I-70 (20 miles combined).
- **Event Duration:** 6 hours and 40 minutes

	Westbound I-70 at I-64	Left Shoulder	Lane 1	Lane 2	Lane 3	Right Shoulder
Closed Hours/Minutes		6:39	6:39	6:39	6:40	6:40



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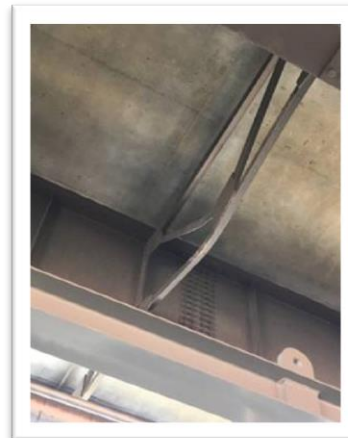
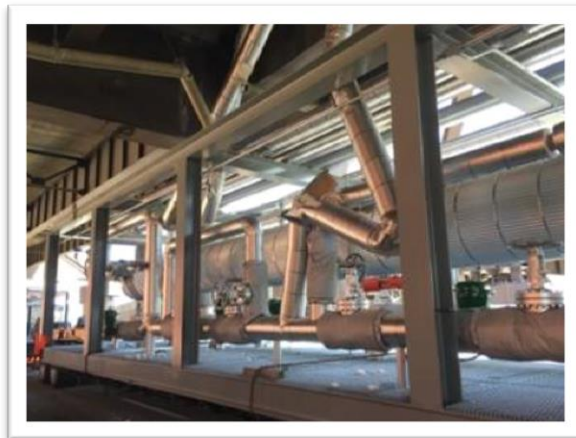


Major Impact Traffic Incidents and Mitigation

7/25/2018 (Wednesday)

- **Time:** 2:50 pm – 6:50 pm
- **Location:** St. Louis City – Eastbound I-64 at 6th Street
- **Event Type:** Oversized load struck overhead structure
- **Estimated Initial Impact:** Rush Hour: 2 of 2 travel lanes affected equals (=) 100%
- **Incident Details:** Oversize/Overweight Tractor Trailer, carrying pipes and tubing became snagged on the underside of the double-deck overpass at 6th Street.
- **Action Taken:** ER notified TMC that the lane #1 of I-64 was closed for an Oversize/Overweight Semi that was stuck under the overpass. One minute later, the lane # 2 was also closed. TMC personnel activated appropriate DMS boards to advise motorists of the situation. Communications, EOC, Motor Carriers, AE, TE, Bridge Superintendent and Engineer, were advised. AE coordinated with PD to make Jefferson the alternate route. Lanes remained closed for the pipes to be cut down to remove vehicle. The bridge was inspected with no damage noted. All lanes were re-opened 6:23 pm with a 27 minute queue.
- **Event Duration:** 4 hours and 0 minutes

	Eastbound I-64 at 6 th Street	Left Shoulder	Lane 1	Lane 2	Right Shoulder
Closed Hours/Minutes		3:33	3:33	3:32	3:32





Major Impact Traffic Incidents and Mitigation

8/1/2018 (Wednesday)

- **Time:** 4:38 pm – 8:02 pm
- **Location:** St. Louis County – Southbound I-270 past St. Charles Rock Road
- **Event Type:** Two-vehicle crash
- **Estimated Initial Impact:** Rush Hour: 3 of 3 travel lanes affected equals (=) 100%;
- **Incident Details:** Pickup rear-ended a tractor trailer hard enough to dislodge rear axle. Passenger of pickup injured requiring medical evacuation.
- **Action Taken:** TMC operator via CCTV saw police and fire arrive on scene for a vehicle crash blocking all lanes. The incident was entered into ATMS, messaging activated and four ER operators dispatched. Two operators were at the scene and two operators diverted traffic at the exit to St. Charles Rock Road. Messaging was on I-270, MO 370 and US 67. The DMS at I-270 east of McDonnell was used to advise I-70 traffic to use Westbound MO 370. Arch Helicopter was dispatched to scene. EOC, MCS and communications were notified. Three tows were on scene to aid in separating and transporting vehicles. A traffic engineer adjusted signals for St. Charles Rock Road and MO 141. ER set up a work zone in the 2 right lanes for the tractor trailer and tows. The 2 left lanes were reopened at 7:30 pm with no queue remaining. All lanes reopened at 8:02 pm
- **Event Duration:** 3 hours and 24 minutes

	Westbound I-270 past St. Charles Rock Road	Left Shoulder	Lane 1	Lane 2	Lane 3	Right Shoulder
Closed Hours/Minutes		2:49	2:49	2:48	3:24	3:24





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Major Impact Traffic Incidents and Mitigation

8/13/2018 (Monday)

- **Time:** 9:08 am – 11:12 am
- **Location:** St. Louis City – Eastbound / Westbound I-270 at Mississippi River
- **Event Type:** Emergency Vehicles
- **Estimated Initial Impact:** Non- Rush Hour: 2 of 2 travel lanes affected equals (=) 100%
- **Incident Details:** The TMC operators received a call from St. Louis City police about a pedestrian across the Chain of Rocks Bridge attempting suicide. The TMC dispatched MoDOT ER to the scene.
- **Action Taken:** St. Louis City PD, Fire, IDOT and IL PD blocked lanes 1 and 2. ER and Olivette PD arrived on scene and started diverting traffic onto Riverview Drive. Traffic was diverted onto Riverview Drive and was able to take either Eastbound I-70 or county roads to Route 367 across to Illinois. Gateway Green Light Traffic Engineer was notified and began to adjust necessary signal timing for traffic. The EOC, Maintenance Superintendent, Communication Staff, Motor Carriers, and the MoDOT Incident Management Coordinator were all notified. The TMC messaged for the event and entered it into TMS to notify the public of the closure. An incident alert and updates were used to advise management of the closure. Traffic queued approximately 3 1/2 miles for Eastbound I-270, unknown for Westbound I-270 into Illinois, but Eastbound returned to normal five minutes after all lanes were opened.
- **Event Duration:** 2 hours and 4 minutes

	Eastbound I-70 at Mississippi River	Lane 1	Lane 2	Right Shoulder
		Closed Hours/Minutes	2:04	1:54
			2:04	

	Westbound I-70 at Mississippi River	Lane 1	Lane 2	Right Shoulder
		Closed Hours/Minutes	1:57	1:57
			1:57	



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Major Impact Traffic Incidents and Mitigation

8/21/2018 (Tuesday)

- **Time:** 11:39 pm – 8:23 am ***Fatality***
- **Location:** Franklin County – Westbound I-44 before MO 100 W / Washington
- **Event Type:** Three-vehicle fatal crash
- **Estimated Initial Impact:** Non-Rush Hour: 2 of 2 travel lanes affected equals (=) 100%
- **Incident Details:** TMC operators heard report of vehicle accident involving an overturned tractor trailer with a possible fatality over scanner. The accident involved two tractor trailers and one pickup. The overturned tractor trailer was directly under the Highway 100 overpass in a work zone.
- **Action Taken:** Confirmed incident on camera. MSHP, Franklin County PD, fire and ambulance were already on scene. Emergency Response dispatched and incident entered in ATMS, floodgate and appropriate boards activated and IMs sent. Incident Management Coordinator, EOC, Community Relations, and WZ Coordinator were notified. ER responded and closed I-44, set out flares and diverted traffic off at Exit 253. Vehicles were just going up and over the highway so MSHP was contacted to block the on ramp. ER went to the exit ramp to help vehicles turn around. MSHP left after vehicles started going the wrong way up the on ramp. ER remained at the diversion point. When the queue became less visible to motorists they started to go up and over again causing near misses as cars were still going wrong way up the on ramp. Franklin County was contacted as MSHP said they had no cars. ER performed traffic control until PD arrived. Special Ops was on standby in Pacific for cleanup and were contacted to bring a TMA and light new flares to assist with traffic control. Gray Summit PD arrived around 2:32 am to help with traffic control. ER returned to the diversion point and relit flares. Three heavy tows responded to clear the scene. The passenger vehicle and the up righted tractor trailer moved to shoulder and the remaining trucks in queue were cleared. At 5 am maintenance and a CBB traffic engineer were notified. The traffic engineer set signals at the I-44 @ MO 100/ Gray Summit interchange to pattern 87 to divert traffic off of Westbound I-44 onto MO 100. Timing for MO 100 @ Route AT was also adjusted slightly, putting a max recall on the Southbound Left from MO 100 onto Route AT to aid in getting diverted traffic from MO 100 back to Westbound I-44. Plans and timing changes were effective from 5:25 am - 8:30 am.
- **Results:** Some delay was incurred by traffic coming westbound on the South Outer Road of I-44, who likely diverted further upstream of the closure, as well as the eastbound off ramp traffic. Neither of these backups reached a point where it seemed timing changes were needed but it should be noted that a review of these plans may be of benefit should a future closure occur at the MO 100/ Gray Summit interchange and Westbound I-44.
- **Event Duration:** 8 hours and 44 minutes

	Westbound I-44 at MO 100/Washington	Left Shoulder	Lane 1	Lane 2	Right Shoulder
Closed Hours/Minutes		8:41	8:41	8:44	8:44